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MICHIGAN FLORA

A LIST OF THE

FERN AND SEED PLANTS GROWING WITHOUT CULTIVATION

PREPARED BY

W. J. BEAL, Sc. M., Ph. D.,

AGRICULTURAL COLLEGE, MICHIGAN.

[Reprinted by permission, from the Fifth Report of the Michigan Academy of Science, 1904.]

PUBLISHED BY
THE STATE BOARD OF AGRICULTURE
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LANSING, MICH.
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INTRODUCTION.

The first Michigan Flora entitled a "Catalogue of the Phænogamous and Vascular Cryptogamous Plants of Michigan, Indigenous, Naturalized and Adentive," was prepared by Charles F. Wheeler and Erwin F. Smith, and was printed in the report of the Michigan State Horticultural Society for 1880.

The second Michigan Flora, based on the first, was prepared by W. J. Beal and C. F. Wheeler and was printed in the report of the Michigan State Board of Agriculture for 1892. Of the second Michigan Flora one thousand separates were printed for distribution and the supply was exhausted in less than five years.

The copies of all the former edition of this Flora were distributed chiefly among botanists of all grades from Professors in Universities and Colleges, Normal Schools, teachers in High Schools, Academies and among amateurs. It is believed that this edition notwithstanding all its defects, will encourage many to study the wild plants of Michigan not forgetting the arrivals from other countries. Besides assisting the student in becoming familiar with names of species and their distribution, it should be useful in other respects.

Within the past few years a delightful department of botany has attracted much attention. It is emphatically outdoor work and is known as Ecology or the relations of plants to their environment.

This Flora may help the student in his investigations of plant groups or plant associations, noting those peculiar to certain kinds of soil, and others growing almost everywhere. It will aid in listing natives and exotics. Students can make many lists, such as those forming rosettes, those that climb, those that thrive in the woods in early spring, those that grow in strata or layers above each other or in zones within and without each other. It should aid in the study of plant dispersal by all sorts of methods and in the multitude of ways by which plants protect themselves.

The following is a list of the chapters found in the last edition of the Flora that are omitted in this edition:

Planting the Roadside and about the Home.
Planting a Grove.
Planting a Wild Garden.
Autumn Foliage.
Native Trees and Shrubs selected for the Color of their Leaves in Autumn.
Native small Trees and Shrubs distinguished for their Flowers.
Native Shrubs or Trees distinguished for their beautiful Fruit.
A list of native Trees and Shrubs distinguished for their showy or brilliant colored Bark.

Native Climbing Plants.
Native Plants which are very light Colored.
A list of Small Evergreens.
Bronze Evergreens.
Native Bog and Marsh plants which are Promising for Cultivation.
Plants suitable for winter Bouquets.
Native Aquatic Plants most worthy of Cultivation.
A list of native Ferns promising for Cultivation.
The Procession of Flowers.
The best Kinds of Timber for Firewood.
The most durable Kinds of Timber for Post or Sills.
Favorite Kinds of Timber for the Cabinet Maker.
Timber for farm Implements.
Valuable Timber for large Boats.
Kinds of timber most employed for Boxes, Baskets and Barrels.
Timber for Paper Pulp.
Trees for Sugar.
Trees and Shrubs best suited for Screens or Wind-breaks.
Some of our wild fruits and nuts, with suggestions concerning their improvement.
Native plants for the Protection of Hillsides, Embankments and drifting Sands.
Plants for Carp Ponds.
Native tree-like or large Shrubs.
List of smaller Shrubs.
List of Rare or Local Plants.
List of Plants introduced from Europe and becoming Naturalized.
Parasitic Fungi.
Flowering Parasites and Saprophytes destitute of green leaves.
List of Michigan Plants which are admitted to the United States Pharmacopœia.
List of medicinal Plants not officinal.

As mentioned in both editions of the Flora above referred to, so in this, the third edition, much pains has been taken to examine authentic specimens which are preserved in some herbarium. For thirty years, till he resigned his position at the Agricultural College in 1902, Professor C. F. Wheeler was a most diligent collector of plants in the State. He kept full notes, not only of his findings but sought specimens and notes from many others.

In 1888, Professor L. H. Bailey, C. F. Wheeler and the author accompanied by two students spent two weeks in collecting on a journey across the State from Harrisville in Alcona county to Frankfort in Benzie county.

In 1892, Professor Wheeler spent several weeks in the southeastern and in the southwestern counties and in the Upper Peninsula making collections for the exposition held in Chicago. In 1895, some weeks were spent collecting in Alpena and vicinity, and later he and B. O. Longyear collected in Ingham, Washtenaw, and Jackson counties. In the summer of 1900 Professor Wheeler spent about six weeks collecting at Chatham and vicinity in the Upper Peninsula.

Portions of every year since 1890 were occupied by Professor Wheeler in making great numbers of short excursions in behalf of the herbarium of the Agricultural College. During these years and previously, the author collected considerable in the counties of Iosco, Clare, Crawford, Grand Traverse, Lake, Muskegon, Calhoun, Eaton, Lenawee, Clinton, Ingham. More particularly since 1890, numerous collections made by others have been sent to the Agricultural College for identification and for preservation in the herbarium.

Notably among these collectors must be mentioned Miss Emma J. Cole

and H. C. Skeels of Grand Rapids; C. D. McLouth of Muskegon; G. H. Hicks of Grayling, Owosso and the Agricultural College; C. K. Dodge of Port Huron; George M. Bradford of Bay City; W. K. Brotherton of Oakland; Geo. W. Davis of Tekonsha; J. W. Stacy of Clarksville. Collections have been received, by gift or purchase, from Prof. C. A. Davis formerly of Alma, now of the University; of O. A. Farwell formerly of Keweenaw county, of Ypsilanti, and later of Detroit; and Rev. Francis Daniels formerly of Alto, Kent county, Manistee and Sturgis; W. S. Cooper of Alma.

After all has been said and done, the study of the flora of the state at best can only be considered as fairly begun. By far the greater areas have not yet been seen by any systematic botanist and very few regions have been visited by one who is an expert in some one or more of the more difficult families.

What species flourished in large areas will never be fully known, since man has cut off, burned over and plowed under tens of thousands of acres of the virgin wilderness! Swamps, marshes and lakes have been drained and the land occupied by farm crops. Many native plants are rapidly shifting from one place to another.

Chiefly through the agency of man, great numbers of weeds and other plants have been introduced from other states and from foreign countries and each has begun a vigorous warfare for all the room it can get.

The sequence of natural families in former Michigan Floras followed *Gray's Manual* which is essentially that of Auguste Pyrame De Candolle. Most of the reasons given for that arrangement have long since been considered untenable. In the Flora, I have followed *Britton's Manual of the Flora of the Northern States and Canada,* published in April, 1901. In this work the sequence of families is very nearly the same as that of Engler and Prantl, which is considered the most philosophical yet presented.

Some of the guiding principles for the system of Engler and Prantl, as they are stated by Britton and Brown's Flora, are as follows:

The more simple forms are, in general, distinguished from the more complex, (1) by fewer organs or parts; (2) by the less perfect adaptation of the organs to the purposes they subserve; (3) by the relative degree of development of the more important organs; (4) by the lesser degree of differentiation of the plant-body or of its organs; (5) by considerations of antiquity, as indicated by the geological record; (6) by a consideration of the phenomena of embryogeny. Thus, the Pteridophyta, which do not produce seeds and which appear on the earth in Silurian time, are simpler than the Spermatophyta; the Gymnospermæ in which the ovules are borne on the face of a scale, and which are known from the Devonian period onward, are simpler than the Angiospermæ, whose ovules are borne in a closed cavity, and which are unknown before the Jurassic.

In the Angiospermæ the similar types are those whose floral structure is nearest the structure of the branch or stem from which the flower has been metamorphosed, that is to say, in which the parts of the flower (modified leaves) are more nearly separate or distinct from each other, the leaves of any stem or branch being normally separated, while those are the most complex whose floral parts are most united.

The names of genera and species are the same as those used in *Britton's Manual* and where these differ from those in the sixth edition of

Gray's Manual, the latter are also inserted in the text. The species of each genus are arranged in alphabetical order. To economize space a considerable number of sections of the Flora last prepared have been omitted or much abbreviated.

In the preparation of this Flora thanks are due to Professor C. F. Wheeler, O. A. Farwell, Prof. C. A. Davis, C. K. Dodge, C. D. McLouth, G. M. Bradford, J. B. Dandeno.

W. J. BEAL.

Agricultural College, Mich., Dec. 1, 1904.

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HERBARIA CONSULTED.

The following Herbaria have been examined:

The Herbarium of the State Agricultural College is fortunate in possessing the collection of Dr. D. Cooley, an excellent botanist who lived many years in Washington, Macomb county. He was a valued correspondent of Dr. Gray, Dr. Torrey, W. S. Sullivant and other botanists of the early part of this century.

The Herbarium of Dr. D. Clark, of Flint, Mich., has lately become the property of the State Agricultural College. This collection contains sets of Bebbs' Willows, Olney's Carices and many specimens from the earlier American collectors, besides valuable collections of Michigan plants.

The large collection of Prof. C. F. Wheeler, which was destroyed by the burning of the Botanical Laboratory on the 23d of March, 1890.

Prof. V. M. Spalding kindly permitted us to examine the University Herbarium at Ann Arbor, in which are deposited the collections of Dr. Douglass Houghton, 1838; Miss Mary H. Clark, Miss E. C. Almendinger, Prof. M. W. Harrington, Prof. N. H. Winchell, Geo. L. Ames, M. D., F. E. Wood and others.

The collection of plants belonging to the Kent Scientific Institute at Grand Rapids under the charge of Mr. George D. Sones.

The collection of O. J. Stilwell, which belongs now to Prof. C. A. Davis of University of Michigan; also Prof. Davis' collection.

The collection of G. H. Hicks, of the Agricultural College, made in Northern and Central Michigan.

The collection of G. F. Comstock, made in Lenawee County, 1845-'50, now the property of Dr. W. J. Beal.

The collection of Dr. W. J. Beal, 1860-1870, now the property of the Michigan Agricultural College.

LOCAL LISTS CONSULTED.

To the following persons we are indebted for lists of the plants growing in their several localities:

Farwell, O. A., for full list of plants of the Keweenaw peninsula, Ypsilanti and Detroit, with copious notes and many specimens.

Beardslee, Prof. H. C., of the University School, Cleveland, O., and Kofoid, Prof. Chas. A., Leland Stanford Jr. University, for a very complete list of the plants of Cheboygan County, Mich., observed by them during the summer of 1890, with full notes and many specimens.

Dodge, C. K., for a collection of the plants growing in the vicinity of Port Huron, with many notes on variation and distribution.

Dewey, L. H., for a list of the plants in the vicinity of Tecumseh, Mich.

Hull, Prof. W., for notes and specimens from Albion and vicinity.

Orth, S. P., for list of plants in the vicinity of Imlay City.

Mosely, E. H., for a list of plants observed near Union City.

Foerste, A. F., for a list of plants observed in the eastern part of St. Clair county.

Mitchell, Prof. I. N., for a list of plants collected in various parts of the State.

St. John, Prof. C. E., for a list of plants collected in Mason county and in the southeastern portion of the State.

Stacey, I. W., for a list of plants collected at Clarksville, Ionia county.

Daniels, F. P., for a list of plants collected at Manistee and Sturgis.

Cooper, W. S., St. Clair county.

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TOPOGRAPHY.

Michigan is peculiarly situated within the waters of the great lakes. N. latitude 41°45′ to 48°20′; W. longitude 82°25′ to 90°34′. It is divided into two parts, called the Upper and Lower Peninsulas. The greatest length of the northern portion from east to west is 318 miles, width 30 to

164 miles, forming about two-fifths of the State. The greatest length of the southern portion from north to south is 277 miles and its extreme width is 259 miles. The total area is 58,915 square miles, with a coast of over 1,600 miles.

The general elevation of the Upper Peninsula is 400 to 1,100 feet above Lake Superior, and that of the Lower Peninsula is 400 to 600 feet above the level of Lakes Michigan and Huron.

The two parts of the State present a striking contrast in many respects. The Upper Peninsula may be divided into two sections east and west of a line drawn through Marquette which present very marked surface and geological characteristics. The eastern portion slopes northward from its southern border to a watershed and thence falls rapidly to the shores of Lake Superior. This plateau contains many lakes and marshes, also fine forests of pine intermixed with groves of hardwood.

The western part is rugged and hilly, some of the hills rising 1,000 to 1,200 feet. In the extreme northwest are ranges which form the copper region; the central range extends from Keweenaw Point across to the Wisconsin line; on either side are the Porcupine mountains and the copper range proper.

South and east of the copper range lies the iron range of Marquette and Iron counties. The eastern portion of this peninsula is underlaid with stratified rocks belonging to the Silurian period, while the western part is occupied by the copper bearing rocks and those of the Huronian period. Glacial drift covers deeply a large portion of both the eastern and western sections.

The Lower Peninsula is generally level or rolling, sloping up in its northern portion to a central ridge or watershed which extends nearly northeast and southwest, the highest part of which, in Otsego county, is 1,100 feet above the lake level.

The shores along the west side of this peninsula are generally bold bluffs which are constantly wearing away, while on the Huron shore they are low and extending by additions of earth cast up by the waves.

The rivers are small but their number is great, and these, with the 5,000 lakes scattered along the watersheds of the State abundantly water all parts of it.

Dr. C. Rominger, a former State Geologist, writes of the geology of the Lower Peninsula as follows: "It forms the center-point of an oceanic bay which seems to have existed without any important alteration in its limits, from the beginning of the Silurian period to the end of the Carboniferous time. We find within the space supposed to have been the bay an uninterrupted series of marine deposits, following each other in the greatest regularity of superposition, which represent all the known formations deposited on this continent from the Silurian period on to the coal formation." The entire surface of the peninsula is covered deeply with glacial drift, consisting of sand, gravels and clays variously intermixed.

The topographical outlines of the Lower Peninsula are due to the joint action of moving ice and flowing water during and following the glacial period.

Beginning in Presque Isle county the lateral moraine of the Huron glacier passes southwest near the line between Montmorency and Alpena counties, thence south by west through Oscoda, Roscommon and Clare, meeting in Mecosta county, the east lateral moraine of Lake Michigan. These join and pass in a southwest direction through Kent, Barry, Kala-

mazoo and St. Joseph counties. The Saginaw bay branch of the Huron glacier unites with the Huron glacier proper, and forms a lateral moraine beginning in Huron county, passing through Sanilac, Lapeer, Oakland, Livingston and portions of Jackson, Washtenaw and Hillsdale counties. This peninsula is divided by these moraines into certain more or less clearly marked floral regions.

CLIMATE AND DISTRIBUTION.

"The sinuosities of the several isothermal lines will demonstrate at a glance the peculiar character of the climate of Michigan, and the fact that both in summer and winter, it is better adapted to the interests of agriculture and horticulture, and probably also to the comfort and health of its citizens, than the climate of any other northwestern state. The marked peculiarity of the climate of Michigan in these respects is attributable to the influence of the great lakes by which the state is nearly surrounded. It has long been known that considerable bodies of water exert a local influence in modifying climate and especially in averting frosts, but it has never been expected that Lake Michigan, for instance, impresses upon the climatic character of a broad region an influence truly comparable with that exerted by the great ocean."—ALEXANDER WINCHELL.

The following general notes on Climate and Distribution are from the preface to the first edition by E. F. Smith:

"The influence of climate on vegetation may be summed up in a few words. The climate of the Lower Peninsula is not as severe as that of the Upper, nor so even, but is subject to frequent, sudden, and extreme changes of temperature—as great a variation during the winter season as 53° Fahr. in less than 24 hours having been recorded. Such rapid changes more or less affect vegetation, especially the tender branches of cultivated trees, which are sometimes seriously injured. In one or two instances a like effect on our forest trees has been noticed. The annual range of temperature is about 116°, and the annual mean 46°. Of rainfall, including what falls in form of snow, we have, yearly, about thirty inches. Our snowfall is much less, for the same latitude, than that of New York and New England. In the center of the peninsula, we seldom have more than a few inches at a time.

"The proximity of the Great Lakes exerts a marked influence in equalizing the temperature and the effects are marked upon our flora.

"Trees, like *Liriodendron Tulipifera, Asimina triloba, Cercis Canadensis, Gleditsia triacanthos, Cornus florida, Nyssa multiflora*, and *Morus rubra*, which belong to Ohio and Central Illinois, have crept northward, favored by the mild influence of the lake winds, through the central and western part of the Lower Peninsula, often beyond the middle, and the same is true of smaller and less noticeable plants.

"As might be expected from the uniform surface of the peninsula, the flora is much alike throughout. Probably three-fourths of our species are common to all sections, though by no means equally distributed; some being very abundant in one district and rare in another at no great distance. In most cases such change is due to soil rather than to difference in elevation, temperature, or atmospheric moisture.

"The Lower Peninsula is covered with a deep drift of alternating sands, clays, and gravels, and the flora of any section depends chiefly on which of these happens to lie uppermost. With reference to its flora, the penin-

sula may roughly be divided into two great divisions—the hardwood and the softwood lands; one representing the Appalachian flora, and the other, the Canadian.

"The hardwood country lies south of latitude 43°, and consists of very fertile sand, clay, or loam, mostly cleared of the original forest, and largely cultivated.

"The sandy or stony drift of many river valleys in this section supports a heavy growth of oak, frequently interspersed with walnut and hickory, while the margins of the streams, and the neighboring swamps, abound in soft maples, swamp and chestnut oak, white and black ash, elm, hackberry, sycamore, butternut, and similar trees. Willows, dogwoods, viburnums, and buttonbush, are common shrubs in the swamps; and hazel, hawthorn, wild cherry and plum, June berry, witch-hazel, etc., are abundant on the dryer ground.

"On the uplands, and away from streams, clay, loam, and a peculiar black muck soil supersede the sands and gravels of the valleys. The prevailing timber here is beech and maple and oak forest in about equal proportions. Beech and maple generally grow together, forming magnificent forests of great extent. The best wheat farms are usually found on uplands near streams, where the oak timber gradually shades into beech and maple. Plains of fertile sand covered with a low, or scattering growth of oak (oak openings) are frequent, and always very desirable for farming purposes.

"Marshes densely covered with tamarack are common in this part of the State, and nourish in their thick shade such plants as *Drosera rotundifolia, Sarracenia purpurea, Rhus venenata, Ribes rubrum, Chiogenes hispidula, Salix candida, Smilacina trifolia, Pogonia ophioglossoides* and *Calopogon pulchellus.* Arbor-vitæ, red cedar and black spruce are comparatively rare.

"A similar tract of soil and timber occurs in the upper end of the peninsula, north of a line drawn from Thunder bay west to the head of Grand Traverse bay. This is commonly known as the "Traverse region," and has a flora much like that we have just described, with the exception that some of the southern species disappear, and northern ones begin to take their place, or if found growing further south, here first become frequent. Deep forests of hemlock and yellow birch (*B. lutea*) mixed with a fine, tall growth of striped maple (*A. Pennsylvanicum*) are frequent, having underneath a tangled growth of *Taxus baccata,* var. *Canadensis,* and under all a carpet of *Lycopodium annotinum.* Alternating with these are sandy plains covered with a dense growth of *Vacciniums,* yielding a great abundance of fruit. Sugar maples and basswood are also abundant in this region, and reach an immense size. In fact, it would be difficult to find finer groves of maple in any part of the State.

"The pine country proper lies between the two tracts we have described, and embraces about 15,000 square miles. It is composed largely of sand hills and plains, either scantily furnished with vegetation, or densely covered with pine forest. Argillaceous tracts wooded with beech and maple also occur, like oases in a desert; and swamps abound, with the usual lowland timber. Forests of hemlock spruce are frequent, and there are occasional ridges of oak. Birch (*B. lutea*) also begins to be a common forest tree, and attains a large size. The usual timber of the barrens is Jack Pine (*P. Banksiana*). Climatic and other influences have combined to produce groves composed entirely of this species of large size and of great

beauty, for, instead of being 'a straggling shrub, or low tree' (Gray), it rises, often 50-60 feet, straight and symmetrical. All through this region *Pinus Strobus* is the prevailing species and furnishes most of the lumber, but *P. resinosa* is frequent as far south as Clare county, and occurs sparingly in the northern part of Isabella county, which appears to be its southern limit.

"Such is the general character of the sylva down to about latitude 43°, but in the western part of the State, owing perhaps to moister climate, or to favorable soil, hemlock spruce is more abundant, and reaches much farther south, nearly or quite to the Indiana line, and the same is true of white pine.

"The flora of the deep pine woods is interesting, though rather monotonous. Very little undergrowth is found, and their gloomy recesses nourish only such plants as love thick shade. Here the club-mosses (*Lycopodiums*) find a congenial home, and flourish luxuriantly, while *Clintonia borealis* covers the ground. The great round-leaved orchid (*Habenaria orbiculata*), with its tall, greenish spike and twin leaves close to the earth, is also frequent and striking. We shall also meet *Mitchella repens, Maianthemum Canadense, Trillium grandiflorum,* perhaps, and a few ferns, particularly *Asplenium Filix-fœmina* and *Phegopteris Dryopteris.* Other species occur, of course, but not so abundantly. In more open places, and on ridges, we meet *Rhus aromatica* and *Comptonia* along with wintergreen (*Gaultheria*) and trailing arbutus (*Epigæa*), and are often fortunate enough to find the wax-white, fragrant flower of *Moneses uniflora,* or *Polygala paucifolia,* hiding its shining leaves under a wealth of showy pink blossoms.

"The floral treasures of the pine region lie, however, in its swamps and lake borders rather than in the deep woods. Therein grows *Linnæa borealis* in all its delicate beauty, carpeting the ground, and close at hand, the odd, brown-purple flower of *Cypripedium acaule* and the small yellow blossom of its water-loving relative *C. parviflorum.* In such swamps, or within a stone's throw of them, may be found many other plants of equal interest, such as *Medeola Virginica, Ledum latifolium, Andromeda Polifolia, Kalmia glauca, Lonicera oblongifolia, Cardamine pratensis, Gerardia aspera, Mitella nuda, Eriophorum vaginatum, etc.* On lake margins we shall find *Lysimachia* and the blue *Pontederia* and more rarely, *Nesæa* and *Eleocharis quadrangulata.* The lake itself, most likely, will be full of *Nymphæa, Nuphar, Utricularias,* and a world of *Potamogetons* and similar water weeds. Shrubby *Vacciniums* line the bluffs, and here and there gleam the white trunks of paper birches against the dark background of pines.

"In the thick-pine country, where the lumberman's ax has let in the sunlight, new plants spring up freely. Here, *Prunus Pennsylvanica* and poplars are frequent, and the blackberry is omnipresent. *Aralia hispida* and *Physalis lanceolata* are also peculiar to such land, and in August *Gnaphalium decurrens* may be seen whitening thousands of acres.

"One seldom beholds a drearier sight than a dead and deserted lumber region. The valuable trees were all felled years ago, and the lumberman moved on to fresh spoils, leaving behind an inextricably confused mass of tree tops, broken logs, and uprooted trunks. Blackberry canes spring up everywhere, forming a tangled thicket, and a few scattering poplars, birches, and cherries serve for arboreal life, above which tower the dead pines, bleached in the weather and blackened by fire, destitute of

limbs, and looking at a distance not unlike the masts of some great harbor. Thousands of such acres, repellant alike to botanist and settler, can be seen in any of our northern counties.

"In certain districts considerable beech is found associated with the pine. The soil of such tracts is usually of better quality, and can be rendered productive without much labor. It may be noted that in such cases the pine also grows thriftier and makes better lumber."

FLORA OF THE JACK-PINE PLAINS.

The plants of this region are all found in one or more of the regions previously enumerated.

The soil of these plains is mainly sand of considerable depth which dries out quickly after a rain, and is then especially liable to be burned over, the burning often destroying every living plant above the surface of the soil. In this way, by repeated burning, much of the vegetable matter is removed, leaving the surface soil thin.

The following seventy species of plants are almost certain to be found in considerable quantity on any extended area of Jack-pine plains:

a. THOSE MOST COMMON.

Amelanchier Botryapium (L. f.) DC. Shad-bush.
(*Amelanchier Canadensis* var. *oblongifolia* T. & G.)
Andropogon furcatus Muhl. Finger, or Beard-grass.
Andropogon scoparius Michx. Beard-grass.
Arctostaphylos Uva-Ursi (L.) Spreng. Bearberry.
Aster lævis L. Smooth Aster.
Carex Pennsylvanica Lam. Pennsylvania Sedge.
Comptonia peregrina (L.) Coulter.
(*Myrica asplenifolia* L.)
Danthonia spicata (L.) Beauv. Wild Oat-grass.
Epigæa repens L. Trailing Arbutus.
Gaultheria procumbens L. Wintergreen.
Leptilon Canadense (L.) Britton. Horse-weed.
(*Erigeron Canadensis* L.)
Oryzopsis juncea (Michx.) B. S. P. Mountain Rice.
(*Oryzopsis Canadensis* Torr.)
Pinus divaricata (Ait.) Gord. Gray Pine. Jack Pine.
(*Pinus Banksiana* Lambert.)
Populus tremuloides Michx. Aspen.
Prunus Pennsylvanica L. f. Wild Red, or Pin Cherry.
Prunus pumila L. Sand Cherry.
Prunus Virginiana L. Choke-Cherry.
Pteridium aquilinum (L.) Kuntze. Eagle Fern.
(*Pteris aquilina* L.)
Quercus coccinea Wang. Scarlet Oak.
Quercus velutina Lam. Black Oak.
(*Quercus tinctoria* Bartram.)
Rumex Acetosella L. Sheep Sorrel.
Salix humilis Marsh. Low willow.
Solidago nemoralis Ait. Golden Rod.
Vaccinium Canadense Richards. Low Blueberry.
Vaccinium Pennsylvanicum Lam. Dwarf Blueberry.
Vaccinium vacillans Kalm. Low Blueberry.

b. THOSE LESS FREQUENT.

Adopogon Virginicum (L.) Kuntze. Dwarf Dandelion. Virginia Goatsbeard.
(*Krigia amplexicaulis* Nutt.)
Agrostis hyemalis (Walt.) B. S. P.
(*Agrostis scabra* Willd.) Hair-Grass.

Antennaria plantaginifolia (L.) Richards. Plaintain-leaved Everlasting.
Apocynum androsæmifolium L. Dogbane.
Aralia hispida Vent. Bristly Sarsaparilla.
Campanula rotundifolia L. Bluebell. Harebell.
Carduus odoratus (Muhl.) Porter.
(*Cnicus pumilus* Torr.)
Ceanothus Americanus L. New Jersey Tea.
Comandra umbellata (L.) Nutt. Bastard Toad-flax.
Convolvulus spithamæus L. Low Bindweed.
Diervilla Diervilla (L.) MacM. Bush Honeysuckle.
(*Diervilla trifida* Moench.
Erigeron ramosus (Walt.) B. S. P. Daisy Fleabane.
(*Erigeron strigosus* Muhl.)
Festuca ovina L. Sheep's Fescue.
Fragaria Virginiana Duchesne. Strawberry.
(*Fragaria Virginiana Illinoensis* A. Gray.)
Gaylussacia resinosa (Ait.) T. & G. Black Huckleberry.
Gnaphalium decurrens Ives. Everlasting.
Helianthemum Canadense (L.) Michx. Frost-wort.
Helianthus divaricatus L. Wild Sunflower.
Helianthus occidentalis Riddell. Wild Sunflower.
Hieracium venosum L. Rattlesnake-weed.
Houstonia longifolia Gaertn. Houstonia.
(*Houstonia purpurea longifolia* A. Gray.)
Koeleria cristata (L.) Pers. Koeleria.
Lacinaria cylindracea (Michx.) Kuntze. Blazing Star.
(*Liatris cylindracea* Michx.)
Lithospermum Gmelini (Michx.) A. S. Hitchcock. Hairy Puccoon.
(*Lithospermum hirtum* Lehm.)
Lycopodium complanatum L. Ground-pine.
Melampyrum lineare Lam. Cow-wheat.
(*Melampyrum Americanum* Michx.)
Monarda fistulosa L. Wild Bergamot.
Onagra biennis (L.) Scop. Evening primrose.
(*Œnothera biennis* L.)
Panicum depauperatum Muhl. Panic-Grass.
Panicum dichotomum L. Panic-Grass.
Pinus resinosa Ait. Norway or Red Pine.
Pinus Strobus L. White Pine.
Polygala polygama Walt. Pink polygala.
Populus grandidentata Michx. Large-toothed Aspen.
Potentilla Canadensis L. Five-finger. Cinque-foil.
Quercus alba L. White Oak.
Rubus Canadensis L. Dewberry.
Rubus hispidus L. Dewberry.
Rudbeckia hirta L. Cone-flower.
Sibbaldiopsis tridentatata (Soland.) Rydb. Three-toothed Cinque-foil.
(*Potentilla tridentata* Ait.)
Solidago juncea Ait. Golden Rod.
Unifolium Canadense (Desf.) Greene.
(*Maianthemum Canadense* Desf.)
Viola arenaria DC. Sand Violet.
(*Viola canina puberula* S. Wats.)
Viola pedata L. Bird-foot Violet.

The above list consists of representatives of thirty families, of fifty-four genera, and of seventy species. The families of plants best represented on the plains are the *Rosaceæ* by six species, *Compositæ* by thirteen species, *Gramineæ* by nine species, *Vacciniaceæ* by four.

The following large and prominent families of the State are not represented in the list given above: *Ranunculaceæ*, *Cruciferæ*, *Caryophyllaceæ*, *Saxifragaceæ*, *Umbelliferæ*, *Orchidaceæ*.

Most remarkable of all is the absence of any *Papilionaceæ* though the family is second in size only to the *Compositæ*. The *Papilionaceæ* is represented in the State by 43 native species and varieties.

The number of biennials given in this list is remarkably small, only two, and there are no annuals in it. Sixty-eight out of seventy are perennials and most persistent plants well adapted by long, deep roots and root-stocks to live in poor soil which is subject to severe droughts. Most of them are admirably adapted to survival after a severe fire has burned over the ground and killed the tops of the plants.

PLANTS INDICATING A FERTILE SOIL.

Acer Saccharum Marsh. Sugar Maple, when the wood is solid and of fine quality.
(*Acer saccharinum* Wang.)
Acer nigrum Michx. Black sugar maple.
(*Acer saccharinum nigrum* Torr. & Gray.)
Adiantum pedatum L. Maidenhair Fern.
Angelica villosa (Walt.) B. S. P. Angelica.
(*Angelica hirsuta* Muhl.)
Apios Apios (L.) Mac M. Ground-nut.
(*Apios tuberosa* Moench.)
Arisæma triphyllum (L.) Torr. Indian Turnip.
Asplenium angustifolium Michx. Spleenwort.
Asplenium acrostichoides Sw. Spleenwort.
(*Asplenium thelypteroides* Michx.)
Cassia Marylandica L. Wild Senna.
Collinsonia Canadensis L. Rich-weed. Stone-root.
Crataegus tomentosa L. Hawthorn.
Dentaria diphylla Michx. Toothwort. Pepper-root.
Dentaria laciniata Muhl. Toothwort. Pepper-root.
Bicuculla Canadensis (Goldie) Millsp. Squirrel Corn.
(*Dicentra Canadensis* DC.)
Bicuculla Cucullara (L.) Millsp. Dutchman's Breeches.
(*Dicentra Cucullaria* DC.)
Fraxinus Americana L. White Ash.
Fraxinus quadrangulata Michx. Blue Ash.
Hydrastis Canadensis L. Golden Seal.
Hydrophyllum Canadense L. Waterleaf.
Hydrophyllum Virginicum L. Waterleaf.
Juglans cinerea L. Butternut.
Juglans nigra L. Black Walnut.
Menispermum Canadense L. Moonseed.
Orchis spectabilis L. Showy Orchis.
Podophyllum peltatum L. May-Apple. Mandrake.
Quercus alba L. White Oak. When well grown.
Quercus macrocarpa Michx. Bur-Oak.
Ribes Cynosbati L. Prickly Gooseberry.
Rubus occidentalis L. Black Raspberry.
Scrophularia Marylandica L. Figwort.
(*Scrophularia nodosa Marylandica* A. Gray.)
Taraxacum Taraxacum (L.) Karst. Dandelion.
(*Taraxacum officinale* Weber.)
Tilia Americana L. Basswood.
Ulmus Americana L. American Elm.
Ulmus racemosa Thomas. Rock Elm.
Uvularia grandiflora J. E. Smith. Bellwort.
Verbena hastata L. Blue Vervain.

When well grown and of good size, several other trees are indications of good soil.

PLANTS PECULIAR TO THE PRAIRIES.

The following plants are peculiar to the prairie region of the southwestern portion of the State:

Amorpha canescens Pursh. Lead-Plant.
Asclepias verticillata L. Milkweed.
Aster sericeus Vent. Aster.
Atheropogon curtipendulus (Michx.) Fourn.
(*Bouteloua curtipendula* (Michx.) Torr.)
Baptisia leucantha Torr. & Gray. False Indigo.
Brauneria purpurea (L.) Britton. Cone-Flower.
(*Echinacea purpurea* Moench.)
Coreopsis palmata Nutt.
Helianthus scaberrimus Ell. Sunflower.
(*Helianthus rigidus* Desf.)
Phlox bifida Beck. Phlox.
Silphium integrifolium Michx. Rosin-weed.
Silphium laciniatum L. Compass-plant.
Silphium perfoliatum L. Cup-plant.

OVERLAPPING OF NORTHERN AND SOUTHERN SPECIES IN THE GRAND RIVER VALLEY.

Northern Species.

Carex Magellanica Lam. Sedge.
Carex pauciflora Lightf. Sedge.
Carex tenuiflora Wahl. Sedge.
Dracocephalum parviflorum Nutt. Dragon-head.
Eriophorum vaginatum L. Cotton-grass.
Lonicera oblongifolia (Goldie) Hook. Swamp Fly-Honeysuckle.
Mimulus Jamesii T. & G. Monkey-flower.
Primula Mistassinica Michx. Primrose.
Symphoricarpos pauciflorus (Robbins) Britton. Snowberry.
(*Symphoricarpos racemosus pauciflorus* Robbins.)
Taxus Canadensis Willd. American Yew. Ground Hemlock.

Southern Species.

Asimina triloba (L.) Dunal. Papaw.
Bidens trichosperma tenuiloba (A. Gray) Britton. Tick-seed. Sunflower.
(*Coreopsis trichosperma* var. *tenuiloba* A. Gray.)
Cassia Marylandica L. Wild Senna.
Cercis Canadensis L. Red-bud. Judas-tree.
Chaerophyllum procumbens (L.) Crantz.
Collinsia verna Nutt. Blue-eyed Mary.
Eleocharis interstincta (Vahl.) R. & S. Spike-rush.
(*Eleocharis equisetoides* Torr.)
Eleocharis mutata (L.) R. & S. Spike-rush.
(*Eleocharis quadrangulata* R. & S.)
Eleocharis olivacea Torr. Spike-rush.
Eleocharis Robbinsii Oakes. Spike-rush.
Eleocharis rostellata Torr. Spike-rush.
Erigenia bulbosa (Michx.) Nutt. Harbinger of Spring.
Gymnocladus dioica (L.) Koch. Ky. Coffee-tree.
(*Gymnocladus Canadensis* Lam.)
Hicoria laciniosa (Michx. f.) Sarg. King-nut.
(*Carya sulcata* Nutt.)
Hemicarpha micrantha (Vahl.) Britton.
(*Hemicarpha subsquarrosa* Nees.)
Liriodendron Tulipifera L. White-wood. Tulip-tree.
Meibomia Marylandica (L.) Kuntze. Tick-Trefoil.
(*Desmodium Marilandicum* Boot.)
Morus rubra L. Red Mulberry.

Silphium terebinthinaceum Jacq. Prairie Dock.
Tradescantia Virginica L. Common Spiderwort.
Utricularia resupinata B. D. Greene. Bladderwort.

COMPARISON OF THE FLORA OF THE EASTERN AND THE WESTERN SIDES OF THE STATE IN THE LATITUDE OF 44°40′.

On the east side, the latitude in question is near Harrisville in Alcona county. On the west side it is near Frankfort in Benzie county.

It has long been known that the climate of the west shore where the wind sweeps across Lake Michigan was milder in winter, and throughout the year less variable than it is on the east side of the State. So far as observed, the plants of the State which are only found in the vicinity of the great lakes are more abundant in individuals on the west shore.

A. Northern Plants Found on the East Side of the State and Not on the West.

Botrychium Lunaria (L.) Swartz. Moonwort.
Botrychium simplex Hitchcock. Moonwort.
Carex capillaris L. Sedge.
Carex durifolia Bailey. Back's Sedge.
(*Carex Backii* Boott.)
Carex Houghtonii Torr. Sedge.
Dracocephalum parviflorum Nutt. Dragon-head.
Kalmia angustifolia L. Sheep Laurel. Lambkill.
Kalmia glauca Ait. Swamp Laurel. Pale Laurel.
Picea Canadensis (Mill) B. S. P. White Spruce.
(*Picea alba* Link.)
Ribes lacustre (Pers.) Poir. Swamp Gooseberry.
Sparganium simplex Huds.

B. Southern Plants Found on the West Side of the State and not on the East.

Adiantum pedatum L. Maiden Hair Fern.
Acer saccharinum L. Silver Maple.
(*Acer dasycarpum* Ehrh.)
Rubus occidentalis L. Black Raspberry.
Sambucus Canadensis L. Common Elder.
Sassafras Sassafras (L.) Karst.
(*Sassafras officinale* Nees.)
Ulmus fulva Michx. Red Elm.
Ulmus racemosa Thomas. Rock Elm.

This list is doubtless incomplete, but so far as it goes it sustains the prevailing notion that the west side of the State has the milder climate. We might be able to see why silver maple, sassafras, black raspberry, red elm and rock elm thrive on the west shore and not on the east, but we are unable to see why the northern plants found on the east shore should not be found on the west shore. Perhaps there is some other reason than the difference of climate of the present day.

PLANTS SUPPOSED TO HAVE IMMIGRATED FROM THE NORTHEAST.

Calypso bulbosa (L.) Oakes.
(*Calypso borealis* Salisb.)
Clintonia borealis (Ait.) Raf.
Equisetum littorale Kuehl.
Eriocaulon septangulare Withering. Pipewort.
Gyrostachys stricta Rydb. Hooded Ladies' Tresses.
(*Gyrostachys Romanzffiana* (Cham.) MacM.)
Selaginella selaginoides (L.) Link.
(*Selaginella spinosa* Beauv.)

Trillium erectum L. Wake Robin.
Trillium undulatum Willd. Painted Wake-Robin.
(*Trillium erythrocarpum* Michx.)

PLANTS SUPPOSED TO HAVE IMMIGRATED FROM THE NORTH AND WEST.

Adenocaulon bicolor Hook.
Anemone parviflora Michx. Anemone.
Artemisia gnaphalodes Nutt. Mugwort.
(*Artemisia Ludoviciana gnaphalodes* T. & G.)
Brauneria pallida (Nutt.) Britton. Purple Cone-flower.
(*Echinacea angustifolia* DC.)
Bromus breviaristatus (Hook.) Buckl. Brome Grass.
Castilleja acuminata (Pursh) Spreng. Painted-cup.
(*Castilleja pallida septentrionalis* A. Gray.)
Drosera linearis Goldie. Sundew.
Euphorbia serpyllifolia Pers. Spurge.
Iva xanthiifolia (Fresen.) Nutt. Marsh Elder.
Lonicera involucrata (Richards) Banks. Honeysuckle.
Mertensia paniculata (Ait.) G. Don. Lungwort.
Mimulus Jamesii T. & G. Monkey-flower.
Mimulus moschatus Dougl. Musk-flower.
Panicularia pallida (Torr.) Kuntze.
(*Glyceria pallida* Trin.)
Roripa obtusa (Nutt.) Britton.
(*Nasturtium obtusum* Nutt.)
Parnassia palustris L. Grass of Parnassus.
Parnassia parviflora DC. Grass of Parnassus.
Phacelia Franklinii (R. Br.) Gray.
Polygonum lapathifolium incanum (Schmidt) Koch. Knotweed.
Potentilla Robbinsiana Oakes.
(*Potentilla frigida* A. Gray.)
Ranunculus reptans intermedius (Hook.) T. & G. Creeping Spearwort.
(*Ranunculus Flammula intermedius* Hook.)
Rosa Engelmanni Watson. Rose.
Rosa Sayi Schwein. Rose.
Rumex salicifolius Weinm. White Dock.
Sorbus sambucifolia (C. & S.) Roem. Western Mountain Ash.
(*Pyrus sambucifolia* Cham. & Schlecht.)
Symphoricarpos occidentalis Hook. Wolfberry.

TREES OF MICHIGAN COMPARED WITH THOSE OF EUROPE.

Michigan is very rich in trees. If we have counted correctly there are 90 species of indigenous trees and three exotics which have escaped from cultivation.

To comprehend the relative importance of our trees, let us glance at the forests of Great Britain. Great Britain and Ireland contain 121,260 square miles of land, Michigan 60,000, a little less than one-half as much as Great Britain. She has one species of basswood not so good as ours; one maple not over twenty feet high; one cherry from ten to twenty feet high; one small ash, two elms, two poplars, one beech, which grows very large but not very high; one small white birch, one species of pine, by no means a match for our white pine; a species of oak which sometimes grows to a great size.

Great Britain has about ten species of trees native to her soil. Michigan, with half the territory, has eighty-five species. Great Britain has no whitewood, no white or red cedar, no walnuts or hickories. Michigan has six species of maple of tree size, a basswood, a whitewood, honey locust, Kentucky coffee tree, three cherries, a pepperidge, five species of ash, a

sassafras, three elms, a hackberry, a mulberry, a buttonwood, black walnut, butternut, eight hickories, thirteen oaks, a chestnut, a beech, four tree birches, three willows of tree size, five poplars, three pines, three spruces, one hemlock, a balsam fir, one larch, one arbor-vitæ and a red cedar.

In all Europe there are only 85 species of trees.

WHY HAS MICHIGAN SO MANY TREES AND GREAT BRITAIN SO FEW.

This question now very naturally arises: Why has the Atlantic region, including Michigan, so many species of trees and why has Europe so few? Certainly we cannot attribute this difference to a defective soil and climate of Europe, as they now exist, for Europe can grow all sorts of trees now found in the temperate zone, while "Great Britain alone can grow double or treble the number of trees that the Atlantic States can."

The former geological conditions of their continents help to explain all this difference in the distribution of trees to the entire satisfaction of scientists.

Away back in the Tertiary Period the trees of the regions now possessing an arctic climate were such as now thrive in a warm temperate zone like that of Georgia and California. This is well illustrated by the abundant fossil remains of trees. Following this, came a long time when extreme cold prevailed, known as the Glacial Epoch, when snow and ice for most or all of the year extended to the Ohio river. At the approach of cold, the trees slowly retreated southward, as generation followed generation. The plants such as now thrive in southern Michigan, perhaps then extended to what now forms the State of Alabama, while the arctic plants reached Ohio.

As the climate again gradually grew warmer, the trees and other plants slowly migrated northward. Some arctic plants were stranded on the White mountains and in Labrador, where they still remain; others went farther north.

Plants of the cool temperate zone reached Michigan. In a similar manner, during the Glacial Epoch the plants of Europe were driven southward. The Alps, the Pyrenees, the Appenines, the Caucasus, still contain some of these arctic plants which retreated there at the close of the Glacial Epoch. Most of the plants of the warm temperate region had perished and therefore were unable to retreat when the continent became warmer.

I quote the words of Dr. A. Gray, from whom other hints are taken, as found in the American Journal of Science, page 194, 1878. "I conceive that three things have conspired to this loss. First, Europe hardly extending south of latitude 40°, is all within the limits generally assigned to severe glacial action. Second, its mountains trend east and west, from the Pyrenees to the Carpathians and the Caucasus beyond, near its southern border; and they had glaciers of their own, which must have begun operations, and poured down the northward flanks, while the plains were still covered with forest on the retreat from the great ice wave coming from the north. Attacked both on front and rear, much of the forest must have perished then and there. Third, across the line of retreat of those which may have flanked the mountain ranges, or were stationed south of them, stretched the Mediterranean, an impassable barrier.

"Greenland may be referred to, by way of comparison, as a country

which, having undergone extreme glaciation, bears the marks of it in the extreme poverty of its flora, and in the absence of the plants to which its southern portion, extending six degrees below the arctic circle, might be entitled. It ought to have trees, and might support them. But since destruction by glaciation, no way has been open for their return.

"In the American continent the mountains run north and south. The trees, when touched on the north by the on-coming refrigeration, had only to move their southern border southward, along an open way, and there was no impediment to their due return. So our lines have been cast in pleasant places, and the goodly heritage of forest trees is one of the consequences."

NATIVE FORAGE PLANTS.

The native grasses while young, from early spring to winter, without exception, furnish a tender bite which is very acceptable to all sorts of horses, cattle, sheep, and even swine and poultry. Most of the native grasses (about 120 in number) grow in isolated bunches, more or less frequent, and furnish but little food, while a considerable portion soon become unpalatable as the summer approaches. The most important native grasses for pasture or meadow are found in open places and are: June grass (not native), fowl meadow-grass, and several other species of *Poa* which have no well-known common name; several manna-grasses (*Panicularia*); a few small fescues, two or three Eatonias; blue-joint, two or three small redtops, and several species of Muhlenberg's grass, two or three kinds of mountain rice, reed-grass, two beard-grasses, and several panic grasses. The following, though quickly and thoroughly disseminated, are not native to our State: Barn-yard grass, crab-grass, foxtail or pigeon-grass, sweet vernal-grass, Timothy, meadow foxtail, the larger redtop so popular for lowlands, tall oat-grass, orchard grass, tall fescue, perennial rye-grass, quick-grass.

Besides the true grasses, there are about one hundred and eighty species of grass-like plants mostly found on marshes, which are called *sedges*. They are mostly confounded with the grasses except by the botanist. In addition to these are some twenty-five other narrow-leaved and grass-like plants known as *rushes* which furnish more or less herbage. Many of the sedges and rushes make hay of fair quality when cut early before they become harsh and woody.

On the Jack-pine plains and in many other portions of the sandy stump-lands in the northern counties are two species of sedges found abundantly on dry land. These are *Carex Pennsylvanica* Lam., and *C. umbellata vicina* Dewey; they are popularly called grasses by the residents of those counties. Inquiries have frequently been made concerning the name, and statements made to the effect that they were very nutritious and that cattle got fat on them early in the spring. So far as I have observed, cattle prefer something else as it starts in spring, thus leaving the sedges untouched to grow all summer and remain green under the snow till the following spring. In spring the cattle eagerly devour the last year's growth of the sedges and thrive on it. This is but another evidence that the quality of the fodder is not of so great importance, provided animals can get enough of it, and can be induced to eat it.

Besides the native grasses, sedges and rushes, there are great numbers of other herbaceous plants, usually one here and there which are eaten by

hungry stock. Leaves and the tender growth of shrubs and young trees are often eaten in great quantities, and in times of scarcity cattle get astride of young trees bending down the tops so as to reach the leaves and twigs. Sheep eat the greatest variety of plants and thus where they feed closely are valuable aids in the clearing of a new country. They eat briars, elders and sprouts of stumps, but will leave some things which they do not like. The weeds that are thus left have an excellent chance to spread and in time occupy much of the ground once covered by the nutritious and edible plants which have been removed. Here we see one of the most excellent reasons for the interference of man in removing the weeds and in encouraging the introduction of the more valuable fodder plants. While these early native pastures and meadows are of incalculable value to the pioneer, without some care they soon deteriorate.

In times of great scarcity of feed in a new country, farmers used to fell trees that cattle might eat the twigs, or "browse," which contain much starch and protoplasm stored away by the trees ready to be used in giving the young growth a start on the approach of warm weather.

Michigan has no native species of clover.

NATIVE BEE PLANTS.

In Michigan there is a very large number of plants which furnish a good quality of honey. If the species is abundant in any region, it usually becomes known to the apiarist as a good bee plant; if not abundant it very likely fails to attract attention. A plant may be rare or important in one region and abundant in another. In autumn, asters and golden rods are known as excellent bee plants, because some few of the many species in the State are plentiful in nearly every neighborhood. but the same sorts of asters or golden rods do not everywhere throughout the State furnish a great amount of the honey. As a rule those plants which produce odorous or showy flowers afford honey and will be visited by honey bees unless the flower is of a shape which makes it impossible for the bee to reach the food.

Probably in the State there are of native plants, introduced weeds and field crops, a thousand species which furnish excellent food for bees. This is nearly one hundred times as many as the bee keeper has in mind, unless he has given unusual attention to the subject.

Our open low lands furnish a large proportion of the bee pasture; the forest some; the weeds and some of the field, garden and orchard crops a fair amount. Extremely dry or very wet weather are both unfavorable to the yield of honey. Drainage of the swamps and the clearing of waste places are unfavorable to the interests of the bee keeper.

As the botanist now looks at the subject, colors and odors are mere advertisements to call the attention of insects to the rich supplies of food in store for them. It may be said that the honey is there for the bees, but primarily it is there for the good of the plant, secondarily for the good of the insect. Had good old Dr. Watts lived in our day, he would have no doubt written his familiar verse in this way:

How doth the little busy bee
Improve each shining hour!
By carrying pollen day by day
To fertilize each flower.

WEEDS, NATIVE AND INTRODUCED.

A new country is comparatively free from weeds, but as the years pass by, one after another, weeds are introduced. Some of them are natives of the neighborhoods in which they are found, but most of them have been introduced from other portions of our own country or from foreign countries. The farmer is not inclined to adopt Emerson's notion of a weed as "a plant whose virtues have not yet been discovered," at least he doesn't purpose trying to find a use for them. The seeds of most weeds find their way onto a farm nicely mixed with seeds of grasses, grains and clovers, which are drilled in or sowed broadcast on fertile soil, where they are afforded an excellent opportunity to grow and multiply. In some instances weeds are introduced as a part of the packing or straw employed to protect castings, marble, crockery or fruit trees. Such foreign packing should always be burned at once.

By these processes the older the country the more troublesome weeds it will have, as every new intruder usually comes to stay. In most cases a weed becomes well established before it is discovered and the inquiry comes: "What is it, and how can I get rid of it?"

Weeds are likely to become most troublesome, where farmers are slovenly and where they are not thorough in cultivating throughout the season the so-called "hoed crops." In regions where "hoed crops" are seldom raised or only raised in small quantity, certain weeds are likely to prove very annoying. The majority of our weeds have been introduced from Europe, as will be seen by a comparison of the two lists which follow:

LIST OF WEEDS INTRODUCED FROM EUROPE AND ASIA.

The List includes at least seventy-eight species, and very likely more.
Abutilon Abutilon (L.) Rusby. Velvet Leaf.
(*Abutilon Avicennæ* Gaertn.)
Agrostemma Githago L. Corn Cockle.
(*Lychnis Githago* Scop.)
Alsine media L. Common Clickweed.
(*Stellaria media* Cyr.)
Alyssum alyssoides (L.) Gouan. Yellow Alyssum.
(*Alyssum calycinum* L.)
Amaranthus hybridus L. Slender Pigweed.
(*Amaranthus chlorostachys* Willd.)
Amaranthus retroflexus L. Rough Pigweed.
Anthemis Cotula L. May-weed.
Arctium Lappa L. Burdock.
Brassica arvensis (L.) B. S. P. Charlock.
(*Brassica Sinapistrum* Boiss.)
Brassica juncea (L.) Cosson. Indian Mustard.
Brassica nigra (L.) Koch. Black Mustard.
Bromus hordeaceus L. Soft-Chess.
(*Bromus mollis* L.)
Bromus racemosus L. Upright-Chess.
Bromus secalinus L. Cheat. Chess.
Bursa Bursa-pastoris (L.) Britton. Shepherd's Purse.
(*Capsella Bursa-pastoris* Medic.)
Camelina microcarpa Andrz. Small-fruited False-flax.
Camelina sativa (L.) Crantz. False-flax.
Carduus arvensis (L.) Robs. Canada Thistle.
(*Cnicus arvensis* Hoffm.)
Carduus lanceolatus L. Common or Bull Thistle.
(*Cnicus lanceolatus* Willd.)

Chaetochloa glauca (L.) Scribn. Yellow Fox-tail.
(*Setaria glauca* Beauv.)
Chaetochloa viridis (L.) Scribn. Green Fox-tail.
(*Setaria viridis* Beauv.)
Chenopodium album L. Lamb's Quarters. Pigweed.
Chenopedium glaucum L. Oak-leaved Goosefoot.
Chrysanthemum Leucanthemum L. White Daisy. Ox-Eye Daisy.
Cichorium Intybus L. Chicory.
Conium maculatum L. Poison Hemlock.
Convolvulus arvensis L. Bindweed.
Cynoglossum officinale L. Hound's-Tongue.
Datura Stramonium L. Stramonium. Thorn-apple.
Datura Tatula L. Purple Thorn-apple.
Daucus Carota L. Carrot.
Diplotaxis muralis (L.) DC. Sand Rocket.
(*Sisymbrium murale* L.)
Dipsacus sylvestris Huds. Wild Teasel.
Echinops sphaerocephalus L.
Eragrostis major Host. Stink grass.
Euphorbia Cyparissias L. Cypress Spurge.
Hypericum perforatum L. St. John's wort.
Inula Helenium L. Elecampane.
Lactuca Scariola L. Prickly Lettuce.
Lappula Lappula (L.) Karst. Stickseed.
(*Echinospermum Lappula* Lehm.)
Leonurus Cardiaca L. Motherwort.
Lepidium apetalum Willd. Apetalous Pepper-grass.
(*Lepidium intermedium* A. Gray.)
Lepidium sativum L. Pepper-grass.
Linaria Linaria (L.) Karst. Butter-and-eggs. Toad-flax.
(*Linaria vulgaris* Mill.)
Lithospermum arvense L. Red root. Corn Gromwell. Wheat Thief.
Malva rotundifolia L. Common Mallow.
Medicago lupulina L. Black Medic.
Melilotus alba Desf. White Melilot. Sweet Clover.
Nepeta Cataria L. Catnep. Catmint.
Panicum capillare L. Witch Grass.
Panicum Crus-galli L. Barnyard-Grass.
Plantago lanceoata L. Ribgrass. English Plantain.
Polygonum Convolvulus L. Black Bindweed.
Portulaca oleracea L. Purslane.
Ranunculus acris L. Buttercup.
Ranunculus bulbosus L. Buttercup.
Ranunculus repens L. Creeping Buttercup.
Roripa sylvestris (L.) Bess. Yellow Water-cress.
(*Nasturtium sylvestre* R. Br.)
Rumex Acetosella L. Field or Sheep Sorrel.
Rumex crispus L. Curled Dock.
Rumex obtusifolius L. Bitter Dock.
Salsola Tragus L. Russian Thistle.
Saponaria officinalis L. Soapwort. Bouncing Bet.
Silene noctiflora L. Night-flowering Catchfly.
Silene vulgaris (Moench) Garcke. Bladder Campion.
(*Silene Cucubalus* Wibel.)
Sisymbrium altissimum L. Tall Sisymbrium.
Sisymbrium officinale (L.) Scop. Hedge Mustard.
Sonchus arvensis L. Sow-Thistle.
Sonchus asper (L.) All. Spiny-leaved Sow-Thistle.
Sonchus oleraceus L. Snow-Thistle.
Syntherisma linearis (Krock.) Nash. Small Grab-grass.
(*Panicum glabrum* Gaud.)
Syntherisma sanguinalis (L.) Dulac. Crab-grass.
(*Panicum sanguinale* L.
Tanacetum vulgare L. Common Tansy.
Taraxacum Taraxacum (L.) Karst. Dandelion.

(*Taraxacum officinale* Weber.)
Tragopogon pratensis L. Goat's-beard.
Verbascum Blattaria L. Moth Mullen.
Verbascum Thapsus L. Mullen.
Xanthium spinosum L. Spiny Clot-bur.

LIST OF INDIGENOUS WEEDS.

This includes thirty-two species and very likely many more.
Acnida tamariscina tuberculata (Moq.) Uline & Bray. Water-hemp.
Acnida tamariscina prostrata Uline & Bray. Prostrate water-hemp.
Amaranthus blitoides S. Wats. Prostrate Amaranth.
Amaranthus graecizans L. Tumble-weed.
(*Amaranthus albus* L.) Tumble-weed.
Ambrosia artemisiaefolia L. Roman Wormwood. Hogweed. Ragweed.
Artemisia biennis Willd. Biennial Wormwood.
Asclepias Syriaca L. Common Milkweed.
(*Asclepias Cornuti* Decaisne.)
Bidens frondosa L. Beggar-ticks. Stick-tight.
Cenchrus tribuloides L. Hedge-hog or Bur-grass.
Chenopodium hybridum L. Maple-leaved Goosefoot.
Cyperus rotundus L. Nut-grass.
Cyperus esculentus L. Nut-Grass.
Erigeron annuus (L.) Pers. Fleabane.
Erigeron ramosus (Walt.) B. S. P. Daisy Fleabane.
(*Erigeron strigosus* Muhl.)
Euphorbia maculata L. Spotted Spurge.
Euphorbia nutans Lag. Spurge.
(*Euphorbia Preslii* Guss.)
Hedeoma pulegioides (L.) Pers. Pennyroyal.
Helianthus tuberosus L. Jerusalem Artichoke.
Iva xanthiifolia (Fresen.) Nutt. Marsh Elder.
Lepidium Virginicum L. Peppergrass.
Leptilon Canadense (L.) Britton. Horse-weed. Fleabane.
(*Erigeron Canadensis* L.)
Onagra biennis (L.) Scop. Evening-primrose.
(*Œnothera biennis* L.)
Panicum capillare L. Old-witch Grass.
Plantago major L. Plantain.
Plantago Rugelii Decaisne. Plantain.
Polygonum aviculare L. Knotgrass.
Polygonum erectum L. Erect Knotgrass.
Polygonum littorale Link. Shore Knotweed.
Prunella vulgaris L. Heal-all.
(*Brunella vulgaris* L.)
Rudbeckia hirta L. Yellow Daisy. Black-eyed Susan.
Urtica gracilis Ait. Tall Wild Nettle.
Xanthium Canadense Mill. Cocklebur. Clotbur.

NATIVE POISONOUS PLANTS.

Besides two species of nettles, *Urtica gracilis* Ait., and *Urticastrum divaricatum* (L.) Kuntze, there are only two species of native plants which are of any prominence as poisonous to the touch, and often these two are not poisonous to all persons. The latter plants or shrubs are known as poison sumach or poison dogwood (*Rhus Vernix* L.), and poison ivy, or poison oak (*Rhus radicans* L.). The last named plant is the most troublesome, as it is often common on dry land, while the one previously noticed is confined to swamps which are not so often frequented. Poison ivy has three leaflets to each leaf, while the handsome Virginian Creeper, often confounded with it, usually has five leaflets to the leaf, and is harmless. The roots, leaves or flowers of many of the

medicinal plants are more or less poisonous when eaten in sufficient quantity, but fortunately, in nearly all such cases, there is something repulsive to the taste or to the smell. Unless one is a botanist or takes the advice of a good botanist, it is safest to let strange plants alone.

NATIVE PLANTS FAST DISAPPEARING.

The fathers and grandfathers of many of us spent a considerable portion of their energies in clearing away trees, shrubs, and breaking up the land that they might have fertile fields. The newer portions of our State are still rapidly undergoing this same transition.

As the country becomes older and more thickly settled almost everything seems to conspire against the trees and smaller plants. Proprietors are still making extensions to their clearings. The "tidy" farmer ditches the cat-holes and marshes, clears out the elders and viburnums to make more room for turnips and better grasses. He turns stock into the wood lot and the flowers of spring and summer retreat to the brush-heaps and a few places inaccessible to the cattle. Fire burns out the dried-up swamps. The officers of the railroad see that the strips alongside the track are often mowed. The highways are attacked and the larger vegetation removed. In places, nurserymen or their agents collect large numbers of the choicer wild plants, as prairie roses and lady's slippers. Near high schools and colleges, the student collectors exterminate many choice plants, root and branch. Many wild plants vigorously protest against these attempts toward their extermination, and start again and again to recover the lost ground, but with the hand of a thorough farmer against them, sooner or later they succumb, the scattered remnants only surviving in the few remaining swamps, along railroads, on a few ragged hills and out of the way places.

Let me utter a vigorous protest against the practice of collecting great quantities of flowers, just to carry home and throw away. And may I hope that every teacher who chances to read this paragraph will also utter a protest against this practice?

LIST OF TREES INDIGENOUS TO MICHIGAN.

The distinction between a tree and a shrub is a purely arbitrary one. If the trunk attains a diameter of one foot the species ranks as a tree, if less than a foot it ranks as a shrub. The papaw and the witch-hazel rank as trees in some regions of the country, but in Michigan I have not included them in the list of trees of the State. I enumerate ninety trees for Michigan.

Abies balsamea (L.) Miller. Balsam Fir.
Acer Negundo L. Box Elder. Ash-leaved Maple. Box Elder.
(*Negundo aceroides* Moench.)
Acer nigrum Michx. Black Sugar Maple.
(*Acer saccharinum nigrum* T. & G.)
Acer Pennsylvanicum L. Striped maple.
Acer rubrum L. Red Maple. Soft Maple.
Acer saccharinum L. Silver Maple. Soft Maple.
(*Acer dasycarpum* Ehrh.)
Acer Saccharum Marsh. Sugar Maple.
(*Acer saccharinum* Wang.)
Æsculus glabra Willd. Fetid or Ohio Buckeye.
Amelanchier Botryapium (L. f.) DC. Shad-bush.

Amelanchier Canadensis (L.) Medic. Shad-bush. June-berry.
Betula lenta L. Cherry Birch. Sweet B. Black B.
Betula lutea Michx. f. Yellow or Gray Birch.
Betula papyrifera Marshall. Paper or Canoe Birch.
Carpinus Caroliniana Walt. Blue Beech.
Castanea dentata (Marsh.) Borkh. Chestnut.
(*Castanea sativa Americana* A. Gray.)
Celtis occidentalis L. Hackberry.
Cercis Canadensis L. Red Bud. Judas tree.
Cornus florida L. Flowering Dogwood.
Crataegus Crus-galli L. Cockspur Thorn.
Crataegus gemmosa Sargent.
Crataegus macracantha Lodd. Long-spined Thorn.
(*Cratacgus coccinea macracantha* Dudley.)
Crataegus mollis (T. & G.) Scheele. Hawthorn.
(*Crataegus coccinea mollis* Torr & Gray.)
Crataegus punctata Jacq. Hawthorn.
Crataegus tomentosa L. Hawthorn.
Fagus Americana Sweet. Beech.
(*Fagus ferruginea* Ait.)
Fraxinus Americana L. White Ash.
Fraxinus lanceolata Borck. Green Ash.
(*Fraxinus viridis* Michx.)
Fraxinus nigra Marsh. Black Ash.
(*Fraxinus sambucifolia* Lam.)
Fraxinus Pennsylvanica Marsh. Red Ash.
(*Fraxinus pubescens* Lam.)
Fraxinus quadrangulata Michx. Blue Ash.
Gleditsia triacanthos L. Honey-Locust.
Gymnocladus dioica (L.) Koch. Kentucky Coffee-tree.
(*Gymnocladus Canadensis* Lam.)
Hicoria alba (L.) Britton. Mocker-nut.
(*Carya tomentosa* Nutt.)
Hicoria borealis Ashe. Northern Hickory.
Hicoria glabra (Mill.) Britton. Pig-nut Hickory.
(*Carya porcina* Nutt.)
Hicoria laciniosa (Michx. f.) Sargent. King-nut, Big Shell-bark Hickory.
(*Carya sulcata* Nutt.)
Hicoria microcarpa (Nutt.) Britton. Small Pig-nut Hickory.
(*Carya microcarpa* Nutt.)
Hicoria minima (Marsh.) Britton. Bitter-nut Hickory.
(*Carya amara* Nutt.)
Hicoria ovata (Mill.) Britton. Shag-bark Hickory.
(*Carya alba* Nutt.)
Hicoria villosa Ashe.
Juglans cinerea L. Butternut.
Juglans nigra L. Black Walnut.
Juniperus Virginiana L. Red Cedar.
Larix laricina (Du Roi.) Koch. Tamarack. American Larch.
(*Larix Americana* Michx.)
Liriodendron Tulipifera L. Tulip-tree. Whitewood.
Morus rubra L. Red Mulberry.
Nyssa sylvatica Marsh. Pepperidge. Tupelo. Black or Sour Gum.
Ostrya Virginiana (Mill.) Willd. Ironwood. Hop-hornbeam.
Picea brevifolia Peck. Swamp Spruce.
Picea Canadensis (Mill.) B. S. P.
(*Picea alba* Link.)
Picea Mariana (Mill.) B. S. P. Black Spruce.
(*Picea nigra* Link.)
Pinus divaricata (Ait.) Gord. Jack or Scrub Pine.
(*Pinus Banksiana* Lambert.)
Pinus resinosa Ait. Norway or Red Pine.
Pinus Strobus L. White Pine.
Platanus occidentalis L. Buttonwood. Sycamore.
Populus balsamifera L. Balsam Poplar.

Populus candicans Ait. Balm of Gilead.
(*P. balsamifera candicans* A. Gray.)
Populus deltoides Marsh. Cottonwood.
(*Populus monilifera* Ait.)
Populus grandidentata Michx. Large-toothed Aspen.
Populus heterophylla L. Downy Poplar.
Populus tremuloides Michx. American Aspen.
Prunus nigra Ait. Canada Plum. Horse Plum.
Prunus Pennsylvanica L. f. Wild Red Cherry. Pin Cherry.
Prunus serotina Ehrh. Black Cherry.
Prunus Virginiana L. Choke Cherry.
Quercus acuminata (Michx.) Houda. Chestnut Oak.
(*Quercus Muhlenbergii* Engelm.)
Quercus alba L. White Oak.
Quercus Alexanderi Britton. Alexander's Oak.
Quercus ellipsoidalis E. J. Hill. Hill's Oak.
Quercus coccinea Wang. Scarlet Oak.
Quercus imbricaria Michx. Shingle Oak.
Quercus macrocarpa Michx. Bur Oak.
Quercus minor (Marsh.) Sargent. Post Oak.
(*Quercus obtusiloba* Michx.)
Quercus palustris DuRoi. Pin Oak.
Quercus platanoides (Lam.) Sudw. Swamp White Oak.
(*Quercus bicolor* Willd.)
Quercus rubra L. Red Oak.
Quercus Schneckii Britton. Schneck's red oak.
(*Q. Texana* Sargent.)
Quercus velutina Lam. Black Oak.
(*Quercus tinctoria* Bartram.)
Salix amygdaloides Anders. Willow.
Salix nigra Marsh. Black Willow.
Sassafras Sassafras (L.) Karst. Sassafras.
(*Sassafras officinale* Nees.)
Sorbus Americana Marsh. American Mountain Ash.
(*Pyrus Americana* DC.)
Sorbus sambucifolia (C. & S.) Roem. Western Mountain Ash.
(*Pyrus sambucifolia* C. & S.)
Thuja occidentalis L. White Cedar. Arbor Vitae.
Tilia Americana L. Basswood. Linden.
Tsuga Canadensis (L.) Carr. Hemlock.
Ulmus Americana L. American Elm.
Ulmus fulva Michx. Slippery or Red Elm.
Ulmus racemosa Thomas. Rock Elm.
Viburnum Lentago L. Sheep-berry.

Four or more hybrid oaks have been found, but these were not enumerated above. They are: Quercus alba× macrocarpa, Quercus Leana,= Q. velutina× imbricaria, Quercus platanoides× macrocarpa, Quercus imbricaria× rubra.

LIST OF SHRUBS INDIGENOUS TO MICHIGAN.

There are two hundred and nine species and varieties.

Acer Pennsylvanicum L. Striped Maple.
Acer spicatum Lam. Mountain Maple.
Alnus Alnobetula (Ehrh.) K. Koch. Green Alder.
(*Alnus viridis* DC.)
Alnus incana (L.) Willd. Speckled Alder.
Alnus rugosa (DuRoi.) K. Koch. Smooth Alder.
Amelanchier alnifolia Nutt. June or Service Berry.
Amelanchier rotundifolia (Michx.) Roem. June or Service Berry.
Amorpha canescens Pursh. Lead-plant.
Andromeda Polifolia L. Wild Rosemary.
Aralia hispida Vent. Bristly Sarsaparilla.
Arctostaphylos Uva-Ursi (L.) Spreng. Bearberry.
Aronia arbutifolia (L.) Medic. Red Chokeberry.
Aronia nigra (Willd.) Britton. Black Chokeberry.

(*Pyrus arbutifolia* L. f.)
Aronia nigra (Willd.) Britton.
(*Pyrus arbutifolia melanocarpa* Hook.)
Asimina triloba (L.) Dunal. Papaw.
Benzoin Benzoin (L.) Coulter. Spice-bush.
(*Lindera Benzoin* Blume.)
Betula glandulosa Michx. Glandular Birch.
Betula pumila L. Low Birch.
Ceanothus Americanus L. New Jersey Tea. Red-root.
Ceanothus ovatus Desf. Smaller Red-root.
Celastrus scandens L. Shrubby or Climbing Bittersweet.
Cephalanthus occidentalis L. Button-bush.
Chamaedaphne calyculata (L.) Moench. Leather-leaf.
(*Cassandra calyculata* D. Don.)
Comptonia peregrinia (L.) Coulter. Sweet-fern.
(*Myrica asplenifolia* L.)
Cornus alternifolia L. f. Alternate-leaved Cornel.
Cornus Amonum Mill. Kinnikinnik.
(*Cornus sericea* L.)
Cornus Baileyi Coult. & Evans. Bailey's Cornel.
Cornus candidissima Marsh. Panicled Cornel.
(*Cornus paniculata* L. Her.)
Cornus circinata L. Her. Round-leaved Cornel.
Cornus stolonifera Michx. Red-osier Cornel.
Cornus stricta Lam. Stiff Cornel.
Corylus Americana Walt. Hazel-nut.
Corylus rostrata Ait. Beaked Hazel-nut.
Crataegus acutiloba Sargent.
Crataegus albicans Ashe.
Crataegus altrix Ashe.
Crataegus ater Ashe.
Crataegus attenuata Ashe.
Crataegus borealis Ashe.
Crataegus brevispina (Dougl.) Farwell.
(*Crataegus punctata brevispina* Dougl.)
Crataegus caesa Ashe.
Crataegus coccinea L.
Crataegus decans Ashe.
Crataegus Dodgei Ashe.
Crataegus fallax Ashe.
Crataegus filipes Ashe.
Crataegus glareola Ashe.
Crataegus immanis Ashe.
Crataegus latisepala Ashe.
Crataegus lanta Ashe.
Crataegus lumaria Ashe.
Crataegus Michiganensis, Ashe.
Crataegus nuperia Ashe.
Crataegus obtecta Ashe.
Crataegus onusta Ashe.
Crataegus pascens Ashe.
Crataegus pastora Sargent.
Crataegus prona Ashe.
Crataegus prunifolia (Marsh.) Pers.
Crataegus pubifolia Ashe.
Crataegus pubipes Ashe.
Crataegus rotundifolia (Ehrh.) Borck.
Crataegus redolans Ashe.
Crataegus sera Sargent.
Crataegus structilis Ashe.
Crataegus tenax Ashe.
Crataegus virella Ashe.
Dasiphora fruticosa (L.) Rybd. Shrubby Cinquefoil.
(*Potentilla fruticosa* L.)
Decodon verticillatus (L.) Ell. Willow Herb.

Diervilla Diervilla (L.) Mac M. Bush Honeysuckle.
(*Diervilla trifida*, Moench.)
Empetrum nigrum L. Black Crowberry.
Epigaea repens L. Trailing Arbutus. Mayflower.
Euonymus atropurpureus Jacq. Burning Bush. Wahoo.
Euonymus obovatus Nutt. Running Strawberry Bush.
(*Enonymus Americanus obovatus* T. & G.)
Gaylussacia resinosa (Ait.) T. & G. Black Huckleberry.
Hypericum Kalmianum L. Kalm's St. John's-wort.
Hypericum prolificum L. Shrubby St. John's-wort.
Ilex verticillata (L.) A. Gray. Winter-berry.
Ilicioides mucronata (L.) Britton. Mountain Holly.
(*Nemopanthes Canadensis* DC.)
Kalmia angustifolia L. Sheep-laurel.
Kalmia glauca Ait. Swamp-laurel.
Ledum Groenlandicum Œlder. Labrador Tea.
(*Ledum latifolium* Ait.)
Lepargyraea argentea (Nutt.) Greene. Buffalo-berry.
(*Shepherdia argenta* Nutt.)
Lonicera Caprifolium L. Perfoliate Honeysuckle.
(*Lonicera grata* Ait.)
Lonicera ciliata Muhl. Fly Honeysuckle.
Lonicera coerulea L. Mountain Fly-Honeysuckle.
Lonicera dioica L. Glaucous Honeysuckle.
(*Lonicera glauca* Hill.)
Lonicera glaucescens Rydb. Douglas' Honeysuckle.
Lonicera hirsuta Eaton. Hairy Honeysuckle.
Lonicera involucrata (Richards) Banks.
Lonicera oblongifolia (Goldie) Hook. Swamp Fly-Honeysuckle.
Malus coronaria (L.) Mill. American Crab Apple.
(*Pyrus coronaria* L.)
Menispermum Canadense L. Moonseed.
Myrica cerifera L. Bayberry. Wax-myrtle.
Myrica Gale L. Sweet Gale.
Opulaster opulifolius (L.) Kuntze. Ninebark.
(*Physocarpus opulifolius* Maxim.)
Oxycoccus macrocarpus (Ait.) Pers. Large Cranberry.
(*Vaccinium macrocarpon* Ait.)
Oxycoccus Oxycoccus (L.) MacM. Small Cranberry.
(*Vaccinium Oxycoccus* L.)
Parthenocissus quinquefolia (L.) Planch. Virginia Creeper.
(*Ampelopsis quinquefolia* Michx.)
Parthenocissus quinquefolia laciniata Planch.
(*Parthenocissus vitacea* Planch.)
Parthenocissus quinquefolia birsuta (Knerr.) T. & G.
Polycodium stamineum (L.) Greene. Deerberry.
(*Vaccinium staminium* L.)
Prunus Americana Marsh. Wild Yellow or Red Plum.
Prunus pumila L. Sand Cherry. Dwarf Cherry.
Ptelea trifoliata L. Hop-tree. Wafer-ash.
Quercus prinoides Willd. Dwarf Chestnut Oak.
Rhamnus alnifolia L'Her. Dwarf Alder.
Rhus aromatica Ait. Fragrant Sumach.
(*Rhus Canadensis* Marsh.)
Rhus copalina L. Dwarf Sumach.
Rhus glabra L. Smooth Sumach.
Rhus hirta (L.) Sudw. Staghorn Sumach.
(*Rhus typhina* L.)
Rhus radicans L. Poison Ivy.
(*Rhus Toxicodendron radicans* Marsh.)
Rhus Vernix L. Poison Sumach.
(*Rhus venenata* DC.)
Ribes Cynosbati L. Prickly Gooseberry.
Ribes floridum L'Her. Wild Black Currant.
Ribes gracile Michx. Missouri Gooseberry.

Ribes lacustre (Pers.) Poir. Swamp Gooseberry.
Ribes oxyacanthoides lacustre Pers.
Ribes oxyacanthoides L. Swamp Gooseberry.
Ribes prostratum L'Her. Fetid Currant.
Ribes rotundifolium Michx. Round-leaved Gooseberry.
Ribes rubrum L. Red Currant.
(*Ribes rubrum subglandulosum* Maxim.)
Rosa Arkansana Porter.
Rosa blanda Ait.
Rosa Carolina L. Swamp Rose.
Rosa Carolina× humilis C. F. Wheeler. A hybrid.
Rosa Engelmanni S. Wats.
Rosa humilis Marsh. Low Rose.
Rosa Sayi Schwein. Say's Rose.
Rosa setigera Michx. Prairie Rose.
Rubus Americanus (Pers.) Britton.
(*Rubus triflorus* Richards.)
Rubus Canadensis L. Low Dewberry.
(*Rubus Millspaughii* Britton.)
Rubus hispidus L. Running Swamp Dewberry.
Rubus nigrobaccus Bailey. Blackberry.
(*Rubus villosus* Ait.)
Rubus occidentalis L. Black Raspberry.
Rubus odoratus L. Purple Flowering-raspberry.
Rubus parviflorus Nutt. Salmon-Berry.
(*Rubus Nutkanus* Mocino.)
Rubus setosus Bigel. Bristly Blackberry.
Rubus strigosus Michx. Wild Red Raspberry.
Salix adenophylla Hook. Tomentose Willow.
Salix amygdaloides Anders. Peach-leaved Willow.
Salix balsamifera (Hook) Barratt. Balsam Willow.
Salix balsamifera lanceolata Bebb.
Salix balsamifera vegeta Bebb.
Salix Bebbiana Sargent. Bebb's Willow.
(*Salix rostrata* Richards.)
Salix candida Fluegge. Hoary Willow.
Salix candida× cordata Bebb. A hybrid.
Salix cordata Muhl. Heart-leaved Willow.
Salix cordata× sericea Bebb.
Salix discolor Muhl. Glaucous Willow.
Salix discolor× eriocephala Anders.
Salix discolor× prinoides (Pursh) Anders.
Salix fluviatilis Nutt. Sandbar Willow.
(*Salix longifolia* Muhl.)
Salix fragilis L.
Salix fragilis× alba Wimmer.
Salix glaucophylla Bebb. Broad-leaved Willow.
Salix glaucophylla× angustifolia Bebb.
Salix glaucophylla× brevifolia Bebb.
Salix humilis Marshall. Prairie Willow.
Salix humilis× discolor Bebb.
Salix interior× Wheeleri Rowlee.
Salix lucida Muhl. Shining Willow.
Salix myrtilloides L. Myrtle Willow.
Salix myrtilloides× pedicellaris Anders.
Salix nigra Marshall. Black Willow.
Salix nigra falcata (Pursh) Torr.
Salix petiolaris J. E. Smith. Petioled Willow.
Salix petiolaris gracilis Anders.
Salix petiolaris× candida Bebb.
Salix sericea Marsh. Silky Willow.
Salix sericea× candida Bebb.
Salix tristis Ait. Dwarf Gray Willow.
Salix viminalis L. Basket Osier.
Sambucus Canadensis L. Purple-berried Elder.

Sambucus pubens Michx. Red-berried Elder.
Smilax hispida Muhl. Green Briar.
Smilax rotundifolia L. Green Briar.
Spiraea salicifolia L. Willow-leaved Meadow-sweet.
Spiraea tomentosa L. Hardhack.
Staphylea trifolia L. Bladdernut.
Symphoricarpos occidentalis Hook. Wolfberry.
Symphoricarpos pauciflorus (Robbins) Britton. Low Snowberry.
Symphoricarpos racemosus Michx. Snowberry.
Symphoricarpos Symphoricarpos (L.) MacM. Coral-berry.
(*Symphoricarpos vulgaris* Michx.)
Vaccinium caespitosum Michx. Dwarf Bilberry.
Vaccinium Canadense Richards. Canada Blueberry.
Vaccinium corymbosum L. Swamp-blueberry.
Vaccinium corymbosum amoenum A. Gray.
Vaccinium membranaceum Dougl. Thin-leaved Bilberry.
(*Vaccinium myrtilloides* Hook.)
Vaccinium nigrum (Wood) Britton. Black Blueberry.
Vaccinium ovalifolium J. E. Smith. Oval-leaved Bilberry.
Vaccinium Pennsylvanicum Lam. Dwarf or Low-bush Blueberry.
Vaccinium Pennsylvanicum angustifolium (Ait.) A. Gray.
Vaccinium uliginosum L. Great Bilberry.
Vaccinium vacillans Kalm. Low Blueberry.
Viburnum acerifolium L. Maple-leaved Arrow-wood.
Viburnum alnifolium Marsh. Hobble-bush.
(*Viburnum lantanoides* Michx.)
Viburnum cassinoides L. Withe-rod.
Viburnum dentatum L. Arrow-wood.
Viburnum Opulus L. Cranberry-tree.
Viburnum pauciflorum Pylaie. Few-flowered Cranberry-tree.
Viburnum prunifolium L. Black Haw.
Viburnum pubescens (Ait.) Pursh.
Vitis aestivalis Michx. Summer Grape.
Vitis bicolor LeConte. Blue or Winter Grape.
Vitis cordifolia Michx. Forest Grape.
Vitis vulpina L. Riverside Grape.
(*Vitis riparia* Michx.)
Xanthoxylum Americanum Mill. Prickly Ash.
Xolisma ligustrina (L.) Britton. Privet Andromeda.

CATALOGUE.

Range of species north or south has been indicated by the following abbreviations at the right: S.—1st, 2d and 3d tiers of counties. C.—From 3d tier of counties northward to Houghton Lake region. N.—Remainder of the Lower Peninsula. L. P.—Lower Peninsula. U. P.—Upper Peninsula. Th.—Whole State so far as known. In a few instances S. E. and S. W. have been used to indicate the southeastern and southwestern parts of the Lower Peninsula. In case of rare or local species, I have given all the localities known, but for more common ones, have usually indicated only the range and relative frequency. Throughout the catalogue B. & K. refer to notes of H. C. Beardslee and Chas. A. Kofoid. W. J. B.—W. J. Beal. All plants which have been collected within ten miles of Lansing are indicated by an asterisk.*

OPHIOGLOSSACEÆ Presl. Adder's-Tongue Family.

OPHIOGLOSSUM L.

1. O. Engelmanni Prantl. Keweenaw Co., O. A. Farwell.

*2. O. vulgatum L. Adder's tongue. Keweenaw Co., O. A. Farwell; St. Clair Co., C. K. Dodge; Manistee, F. P. Daniels; Ann Arbor, C. A. Davis; due north of the Agricultural College on the Zac. Chandler farm; very likely overlooked in most places where it might be found. Rare.

BOTRYCHIUM Swartz.

2a. **B. boreale** (Fries.) Milde. Keweenaw Co., O. A. Farwell.

3. **B. dissectum** Spreng. *B. ternatum dissectum* D. C. Eaton. South Haven, Bailey; Detroit, Foerste; Alma, C. A. Davis; St. Clair Co., J. W. Stacey.

4. **B. lanceolatum** (S. G. Gmel.) Angstroem. Lance-leaved Grape-fern. Damp, mossy places. Lake Superior, H. Gillman; Keweenaw Co., O. A. Farwell.

5. **B. Lunaria** (L.) Swartz. Moonwort. "Lake Superior (Lesquereux.) and sparingly northward," Eaton in Gray's Manual; Keweenaw Co., O. A. Farwell; Harrisville, W. J. B. Rare.

6. **B. matricariae** (Schrank.) Spreng. Keweenaw Co., O. A. Farwell.

7. **B. matricariaefolium** A. Braun. Dark, wet woods. Lake Superior, D. C. Eaton; Keweenaw Co., O. A. Farwell.

8. **B. obliquum** Muhl. *B. ternatum obliquum* D. C. Eaton. Pastures and meadows. Fort Gratiot and S. Mich., Winch. Cat.; Flint; S. Haven, Bailey; Ann Arbor, Allmendinger Cat.; Gratiot Co.; Keweenaw Co., Detroit, O. A. Farwell; Berrien Co., H. S. Pepoon. Infrequent.

8a. **B. obliquum intermedium** (D. C. Eaton) Underw. *B. ternanatum australe* D. C. Eaton. Keweenaw Co., O. A. Farwell.

9. **B. Onondagense** Underw. Keweenaw Co., O. A. Farwell.

10. **B. simplex** Hitchcock. Little Grape-fern. Hillsides. Westward to Lake Superior, D. C. Eaton, Ferns of N. Am.; Keweenaw Co., O. A. Farwell; near Oscoda in 1888, the only station known in the Lower Peninsula. Rare.

11. **B. tenebrosum** A. A. Eaton. Keweenaw Co., O. A. Farwell.

*12. **B. Virginianum** (L.) Swartz. Virginia Grape-Fern. Rich woods. Variable. Common.

13. **B. Virginianum gracile** Pursh. With type.

OSMUNDACEÆ R. Br. Royal Fern Family.

OSMUNDA L.

*18. **O. cinnamomea** L. Cinnamon Fern. Swamps. Common.

*19. **O. Claytoniana** L. Clayton's Fern. Moist grounds, common. Th.

*20. **O. regalis** L. Flowering Fern. Swamps, common.

POLYPODIACEÆ R. Br. Fern Family.

ONOCLEA L.

*21. **O. sensibilis** L. Sensitive Fern. Wet places. Abundant. Th.

MATTEUCCIA Todaro. ONOCLEA L. in part.

*22. **M. Struthiopteris** (L.) Todaro. Ostrich Fern. *Onoclea Struthiopteris* (L.) Hoffm. Alluvial soil. Infrequent. Th.

WOODSIA R. Br.

23. **W. alpina** (Bolton) S. F. Gray. Alpine Woodsia. *W. hyperborea* R. Br. U. P., O. A. Farwell.

24. **W. Ilvensis** (L.) R. Br. Rusty Woodsia. N. E., Winch. Cat.; Lake Superior, Whitney Cat.; Lower Falls of the Quinnesec, E. J. Hill; Norway, C .F. Wheeler.

25. **W. obtusa** (Spreng.) Torr. Blunt-lobed Woodsia. Rocky places. Huron Co., C. A. Davis. U. P. Not rare.

26. **W. Oregana** D. C. Eaton. Oregon Woodsia. Crevices of rocks south shore of Lake Superior. Dr. Robbins in Gray's Manual.

27. **W. scopulina** D. C. Eaton. Rocky Mountain Woodsia. Rocks of the lower falls of the Menominee river, C. F. Wheeler.

DENNSTAEDTIA Bernh. DICKSONIA L'Her.

28. **D. punctilobula** (Michx.) Moore. *Dicksonia punctilobula* (Michx.) A. Gray. Petoskey, Emmet Co., Winch. Cat.; Keweenaw Co., O. A. Farwell.

FILIX Adans. CYSTOPTERIS Bernh.

*29. F. bulbifera (L.) Underw. *Cystopteris bulbifera* (L.) Bernh. Bulblet Fern. Moist shaded hillsides. Locally frequent. Th.

*30. F. fragilis (L.) Underw. *Cystopteris fragilis* (L.) Bernh. Brittle Fern. Woods and river banks. Ann Arbor, Allmend. Cat.; Flint; Hubbardston; Alma, C. A. Davis; northward to Lake Superior, Whitney. Th.

31. F. fragilis tenue (Michx.) *Cystopteris fragilis dentata* Hook. Keweenaw Co., and Ypsilanti, O. A. Farwell.

32. F. montana (Lam.) Underw. Mountain Cystopteris. *Cystopteris montana* (Lam.) Bernh. North shore of Lake Superior, Britton & Brown.

POLYSTICHUM Roth. ASPIDIUM in part.

33. P. acrostichoides (Michx.) Schott. Christmas Fern. *Aspidium acrostichoides* Sw. Shady ground. Th.

34. P. Braunii (Spenner) Fée. Braun's Holly-fern. *Aspidium aculeatum Braunii* Doell. Ontonagon Peninsula, Eaton's Ferns of N. A.; Keweenaw Co., O. A. Farwell.

35. P. Lonchitis (L.) Roth. Holly-Fern. *Aspidium Lonchitis* Sw. Woods south shore of Lake Superior, Prof. Whitney; Keweenaw Co., O. A. Farwell.

DRYOPTERIS Adans. ASPIDIUM in part.

36. D. Boottii (Tuckerm.) Underw. Boott's Shield-fern. *Aspidium Boottii* Tuckerm. Alder thickets. Hubbardston; Ann Arbor, Winch. Cat.; Norway, C. F. Wheeler; Keweenaw Co., O. A. Farwell.

*37. D. cristata (L.) A. Gray. Crested Shield-fern. *Aspidium cristatum* Sw. Swamps. Frequent. Th.

38. D. cristata Clintoniana (D. C. Eaton) Underw. *Aspidium cristatum Clintonianum* D. C. Eaton. Ann Arbor, Allmendinger Cat.; Hubbardston; found at Lake Nipigon, Ont., Macoun; Alma, C. A. Davis. Infrequent. Th.

39. D. Filix-Mas (L.) Schott. Male Fern. *Aspidium Filix-mas* Sw. Rocky woods. Keweenaw Peninsula, Lake Superior. A. Gray.

40. D. fragrans (L.) Schott. Fragrant Shield-fern. *Aspidium fragrans* Sw. Crevices of shaded cliffs. Isle Royale, and Keweenaw Peninsula, Dr. Lyons.

*41. D. Goldieana (Hook.) A. Gray. Goldie's Fern. *Aspidium Goldieanum* Hook. Moist woods. Flint; Hubbardston, C. F. Wheeler; Owosso, G. H. Hicks; Black River, St. Clair Co., C. K. Dodge; Alma, C. A. Davis.

*42. D. marginalis (L.) A. Gray. Evergreen Wood-fern. *Aspidium marginale* Sw. Hillsides in rich woods. S. Haven, Bailey; Flint; Hubbardston and northward. Frequent. Th.

*43. D. Noveboracensis (L.) A. Gray. New York Fern. *Aspidium Noveboracense* Sw. Swamps. Ann Arbor, Allmendinger Cat.; Macomb Co.; Hubbardston; Gore Bay, Manitoulin Island, J. Bell. Canadian Cat. L. P.

44. D. simulata Davenport. Belle Isle, O. A. Farwell.

*45. D. spinulosa (Retz) Kuntze. Spinulose Shield-fern. *Aspidium spinulosum* Sw. Shady woods. Flint; Hubbardston; L. Superior, D. C. Eaton, Ferns of N. A. Th.

46. D. spinulosa dilatata (Hoffm.) Underw. *Aspidium spinulosum* var. *dilatatum* Hook. Woods. Ann Arbor, Allmendinger Cat.; Macomb Co.; Flint; Hubbardston; Petoskey, and northward. Th.

*47. D. spinulosa intermedia (Muhl.) Underw. *Aspidium spinulosum* var. *intermedium* D. C. Eaton. Woods. Common. Th.

*48. D. Thelypteris (L.) A. Gray. Marsh Shield-fern. *Aspidium Thelypteris* Sw. Swamps. Frequent. Th.

PHEGOPTERIS Fée.

*49. P. Dryopteris (L.) Fée. Oak-fern. Open woods. Frequent north of lat. 43°, especially under pines. Th.

*50. P. hexagonoptera (Michx.) Fée. Broad Beech-fern. Beech woods. Flint; Hubbardston; Ann Arbor, Allmendinger Cat.; Keweenaw Co., O. A. Farwell. Frequent. Th.

*51. P. Phegopteris (L.) Underw. Long Beech-fern. *P. polypodioides* Fée. Isle Royale, Dr. A. B. Lyons; Keweenaw Co., O. A. Farwell; Frankfort; Inland, Grand Traverse Co.; rocks, Grand Ledge. Abundant northward. Th.

WOODWARDIA J. E. Smith.

52. W. areolata (L.) Moore. Net-veined Chain-fern. *W. angustifolia* J. E. Smith. South Haven, L. H. Bailey in 1880; near Black River, St. Clair Co., C. K. Dodge.
*53. W. Virginica (L.) J. E. Smith. Virginia Chain-fern. Marshes, Marquette Co., Burt. MS. Cat.; Westville, Montcalm Co.; Flint; So. Haven, Bailey; Hubbardston, C. F. Wheeler; Ann Arbor, Allmendinger Cat.; near Port Huron, C. K. Dodge. Th.

CAMPTOSORUS Link.

54. C. rhizophyllus (L.) Link. Walking-fern. Keweenaw Co., O. A. Farwell; Alpena, V. M. Spalding, C. F. Wheeler; Norway on the northeast exposure of quartz rock, C. F. Wheeler. Rare.

ASPLENIUM L.

*55. A. acrostichoides Sw. Silvery Spleenwort. *A. thelypteroides* Michx. Rich woods. Frequent. Th.
*56. A. angustifolium Michx. Narrow-leaved Spleenwort. Rich woods, S. W., Wright Cat.; Ann Arbor, rare, Allmendinger Cat.; Flint; S. Haven, Bailey; Ionia Co. Infrequent. C. & S.
*57. A. Filix-foemina (L.) Bernh. Lady Fern. Moist woods. Exceedingly variable. Common. Th.
58. A. montanum Willd. Mountain Spleenwort. Near Clifton, Keweenaw Co., O. A. Farwell.
59. A. platyneuron (L.) Oakes. Ebony Spleenwort. *A. ebeneum* Ait. Allegan, Miss Josie A. Williams. Only station known in the State.
60. A. Rutra-muraria L. Wall Rue Spleenwoort. N. E., Winch. Cat.; Keweenaw Co., O. A. Farwell. Rare.
61. A. Trichomanes L. Maidenhair Spleenwort. N. E., Winch. Cat.; Keweenaw Point; Isle Royale, Porter. Infrequent. N. & U. P.

ADIANTUM L.

*62. A. pedatum L. Maiden-hair Fern. Rich, moist woods. One of the most beautiful ferns. Common. Th.

PTERIDIUM Scop. Pteris L. in part.

*63. Pteridium aquilinum (L.) Kuhn. Common Brake. *Pteris aquilina* L. Open ground. Common. Th.

CRYPTOGRAMMA R. Brown.

64. C. acrostichoides R. Br. American Rock-brake. Isle Royale, Gray's Manual; Caribou Island, Porter. U. P.
65. C. Stelleri (Gmel.) Prantl. Slender Cliff-brake. *Pellaea Stelleri* (Gmel.) Walt. Louse Isle, Winch. Cat.; Pictured Rocks, G. H. Hicks.

PELLAEA Link.

66. P. atropurpurea (L.) Link. Purple Cliff-brake. Norway, C. F. Wheeler. Shaded limestone rocks. N. E. Winch. Cat.

POLYPODIUM L.

*67. P. vulgare L. Common Polypody. Dry banks and rocks. Grand Ledge, W. J. B.; Hubbardston, C. F. Wheeler. Rarely seen in L. P., but very common in U. P.

EQUISETACEÆ Michx. Horsetail Family.

EQUISETUM L.

*68. E. arvense L. Common Horsetail. Damp sandy grounds. Common. Th.
69. E. arvense campestre Schultz. Keweenaw Co., O. A. Farwell.
70. E. arvense riparium Milde. Keweenaw Co., O. A. Farwell.
*71. E. fluviatile L. Swamp Horsetail. *E. limosum* L. In shallow water. Common. Th.
72. E. fluviatile polystachyon (Bruckner) Prayer. Keweenaw Co., O. A. Farwell.
*73. E. hyemale L. Scouring-Rush. Wet banks, common. Th.
*74. E. hyemale ramigerum A. Br. Keweenaw Co., O. A. Farwell.
75. E. laevigatum A. Br. Smooth Scouring-rush. Port Huron, C. K. Dodge; Manistee, F. P. Daniels.
76. E. littorale Kuehl. Shore Horsetail. New Buffalo; Oscoda; Keweenaw Co., O. A. Farwell.
77. E. palustre L. Marsh Horsetail. Lake Huron to the Arctic Sea. (Hook, Fl.) U. P.
*78. E. pratense Ehrh. Thicket Horsetail. Macomb Co.; Flint; to Pine Lake, Emmet Co., Winch. Cat.; Keweenaw Co., O. A. Farwell. Th.
*79. E. robustum A. Br. Stout Scouring-rush. Port Huron, C. K. Dodge; Morenci, W. J. B.; Manistee, F. P. Daniels.
80. E. scirpoides Michx. Sedge-like Equisetum. Macomb Co.; Flint; Hubbardston; Petoskey; to L. Superior, Whitney Cat., O. A. Farwell. Th.
*81. E. sylvaticum L. Wood Horse-tail. Ann Arbor, rare, Allmend. Cat.; Clinton Co.; Montcalm Co.; Flint; and northward where it is common. Th.
82. E. variegatum Schleich. Variegated Equisetum. S. E., Winch. Cat.; Hubbardston; Muir; Macomb Co.; Flint; sand dunes at the head of Little Traverse Bay; Drummond's I., Port Huron, C. K. Dodge; Detroit and Keweenaw Co., O. A. Farwell. Infrequent. Th.

LYCOPODIACEÆ Michx. Club-Moss Family.

LYCOPODIUM L.

83. L. alpinum L. Alpine Club-moss. Keweenaw Co., O. A. Farwell.
84. L. annotinum L. Stiff Club-moss. Woods. Petoskey to L. Superior; St. Clair Co., C. K. Dodge. Common.
85. L. Chamaecyparissus A. B. *L. complanatum Chamaecyparissus* D. C. Eaton. Tp. of Arthur, Clare Co., May 15, 1849, G. H. Cannon; Keweenaw Co., O. A. Farwell; Manistee, F. P. Daniels.
*86. L. clavatum L. Common Club-moss. Dry woods. Common. Th. N. & U. P.
87. L. clavatum monostachyon Hook. Keweenaw Co., O. A. Farwell.
*88. L. complanatum L. Ground-Pine. Bangor, Van Buren Co., Bailey; shore of Pine Lake; Keweenaw Co., O. A. Farwell; Woodward Lake, Ionia Co.; Flint; Macomb Co., Stanton, and northward. Th.
89. L. inundatum L. Bog Club-moss. Drummond's I.; Willow River, Huron Co.; Sugar Is., Winch. Cat.; Keweenaw Co., O. A. Farwell. Th.
*90. L. lucidulum Michx. Shining Club-moss. Moist woods. Frequent. Th.
*91. L. obscurum L. Ground Pine. Moist woods.
92. L. obscurum dendroideum D. C. Eaton. Macomb Co., Cooley; Keweenaw Co., O. A. Farwell, near Port Huron, C. K. Dodge; Oscoda.
93. L. porophilum Lloyd & Underw. Keweenaw Co., O. A. Farwell.
94. L. sabinaefolium Willd. Cedar-like Club-Moss. Keweenaw Co., O. A. Farwell. Rare.
95. L. Selago L. Fir Club-moss. Lake Superior, Gray's Manual; Keweenaw Co., O. A. Farwell. Infrequent U. P.

SELAGINELLACEÆ Underw.

SELAGINELLA Beauv.

*96. S. apus (L.) Spring. Creeping Selaginella. Ann Arbor, Allmendinger Cat.; Hubbardston, Grand Ledge, C. F. Wheeler; Orion, O. A. Farwell; Port Huron, W. S. Cooper and C. K. Dodge; Alma and Ann Arbor, C. A. Davis. Infrequent.

*97. S. rupestris (L.) Spring. Rock Selaginella. Flint; Woodward Lake; rare in L. P.; but common in U. P. Park Lake, Clinton Co., C. F. Wheeler; Oscoda, Grayling, Harrison, W. J. B.; Keweenaw Co., O. A. Farwell. Th.

98. S. selaginoides (L.) Link. Low Selaginella. *S. spinosa* Beauv. Isle Royale, Dr. A. B. Lyons; Keweenaw Co., O. A. Farwell. U. P.

ISOETACEÆ Underw. Quillwort Family.

ISOETES L.

99. L. echinospora Braunii (Durieu) Engelm. Braun's Quillwort. Gray's Manual.

100. L. lacustris L. Lake Quillwort. River St. Marie, head of ship canal, T. C. Porter; St. Clair River, W. S. Cooper.

PINACEÆ Lindl. Coniferæ in part. Pine Family.

PINUS L.

101. P. divaricata (Ait.) Gord. Gray Pine. Jack Pine. *P. Banksiana* Lambert In the western part of the state noticed as far south as Grand Haven. Occurs at south end of Lake Michigan in Indiana; Sand Pt., Port Austin, Saginaw Bay, and northward along the shore of L. Huron, not common, Winch. Cat. In the central part of the State this pine is first seen in the northern part of Clare Co., where it is common in groves on sandy barrens. Trees sometimes grow 50 to 70 feet in height and rarely have been measured with a diameter of two feet.

102. P. resinosa Ait. Red Pine. Norway Pine. Dry woods. First noticed in Isabella Co., in center of the L. P.; very abundant in Clare Co., and northward. "Frequent on low, sandy plains in U. P., where it forms orchard-like groves," Whitney. Usually 100 to 110 feet high. On the east side of the State it extends southward to Port Huron, C. K. Dodge; Gratiot Co., C. A. Davis.

*103. P. Strobus L. White Pine. Weymouth Pine. C. & N. W.

LARIX Adans.

*104. P. laricina (DuRoi) Koch. American Larch. Tamarack. *L. Americana* Michx. Swamps. A slender tree southward, but sometimes reaching 100 feet in height northward, where it is abundant. Th.

PICEA Link.

105. P. brevifolia Peck. Keweenaw Co., O. A. Farwell.

106. P. Canadensis (Mill.) B. S. P. White Spruce. *P. alba* Link. From Ludington to Alcona Co., W. J. B.; Bay Co., G. M. Bradford; Petoskey and northward. N. & U. P. Common.

*107. P. Mariana (Mill.) B. S. P. Black Spruce. *P. nigra* Link. Frequent northward, and occasional south—a small tree in spagnous swamps. Th.

TSUGA Carriere.

*108. T. Canadensis (L.) Carriere. Hemlock. Grand Ledge. Rarely seen south of latitude 43° except in the west, and scarce on the Huron shore, but common on the east shore of Lake Michigan; Berrien Co., H. S. Pepoon, and from the central part of the State northward. Very abundant and of great size in Emmet Co. Th. except in S. E.

ABIES Juss.

109. A. balsamea (L.) Miller. Balsam or Balm-of-Gilead Fir. Frequent in the northern part of Clare Co.; Bay Co., G. M. Bradford; abundant at Petoskey, and northward. N. C. & U. P.

THUJA L. THUYA.

110. T. occidentalis L. Arbor Vitae. White Cedar. Lake Orion, Whitmore Lake. C. A. Davis; Montcalm Co., and northward.

JUNIPERUS L.

*111. **J. communis** L. Common Juniper. Occasional throughout, along the highest grounds.

112. **J. nana** Willd. *J. Sibirica* Burgsd. Keweenaw Co., O. A. Farwell; Manistee, F. P. Daniels; common in Jackson, Livingston and Washtenaw Counties, C. A. Davis.

113. **J. Sabina** L. Shrubby Red Cedar. *J. Sabina procumbens* Pursh. Little Traverse Bay, W. J. B.; Keweenaw Co., and Rochester, O. A. Farwell. N. & U. P.

*114. **J. Virginiana** L. Red Cedar. Savin. Bluffs and sterile soil. Throughout, but scarce.

TAXACEÆ Lindl. Yew Family.

TAXUS L.

115. **T. Canadensis** Marsh. American Yew. Ground Hemlock. *T. minor* (Michx.) Britton. Moist woods in the shade of evergreens. Along the east shore of Lake Michigan as far south as South Haven, L. H. Bailey; Macomb Co., where it is rare. St. Clair Co., C. K. Dodge. Common northward.

TYPHACEÆ J. St. Hil. Cat-tail Family.

TYPHA L.

116. **T. angustifolia** L. Narrow-leaved Cat-tail Flag. Detroit, Dr. A. B. Lyons; Port Huron, C. K. Dodge; Ann Arbor and Tuscola Co., C. A. Davis; Bay Co., G. M. Bradford; S. E. Rare.

*117. **T. latifolia** L. Common Cat-tail. Borders of streams and ponds. Common. Th.

SPARGANIACEÆ Agardh. Bur-Reed Family.

SPARGANIUM L.

118. **S. androcladum** (Engelm.) Morong. Branching Bur-reed. *S. simplex androcladum* Engelm. Ann Arbor, Allmendinger Cat.; Flint, Dr. Clark; Macomb Co.; St. Clair Co., C. K. Dodge; Bay Co., G. M. Bradford.

*119. **S. eurycarpum** Engelm. Broad Fruited Bur-reed. Borders of ponds. Frequent. C. & S.

120. **S. minimum** Fries. Small Bur-reed. Hubbardston; Manistee, E. J. Hill; Macomb Co.; Homestead, Benzie Co.; Keweenaw Co., O. A. Farwell. Rare.

*121. **S. simplex** Hudson. Simple-stemmed Bur-reed. Fruitport, E. J. Hill; Oscoda; Keweenaw Co., O. A. Farwell; Black River, B. & K. Common. Th.

122. **S. simplex angustifolium** (Michx.) Engelm. Isle Royale, Whitney Cat.; Keweenaw Co., O. A. Farwell; N. shore of Lake Superior, Agassiz.

NAIADACEÆ Lindl. Pondweed Family.

POTAMOGETON L.

123. **P. alpinus** Balbis. Northern Pondweed. *P. rufescens* Schrad. N. & U. P.

*124. **P. amplifolius** Tuckerman. Large-leaved Pondweed. Maple River; Macomb Co.; Pere Marquette River at Ludington, E. J. Hill; St. Clair Co., C. K. Dodge.

125. **P. diversifolius** Raf. Rafinesque's Pondweed. *P. hybridus* Michx. Dr. A. B. Lyons; Keweenaw Co., O. A. Farwell.

126. **P. filiformis** Pers. Filiform Pondweed. Belle Isle, O. A. Farwell.

*127. **P. foliosus** Raf. Leafy Pondweed. *P. pauciflorus* Pursh. Hubbardston, Grand Rapids, Flint, Macomb Co., and northward. Typical forms occur at Manistee and Frankfort, E. J. Hill. Th.

128. **P. foliosus Niagarensis.** (Tuckerman) Morong. In running water, Hubbardston; Macomb Co., and along the great lakes.

*129. **P. Friesii** Ruprecht. Fries' Pondweed. *P. mucronatus* Schrad. Crooked River, Cheboygan Co., and common at Manistee and Frankfort, E. J. Hill; Oscoda, St. Mary's River, Sault de Ste Marie; Detroit, O. A. Farwell.

*130. **P. heterophyllus** Schreb. Various-leafed Pondweed. Th.

131. P. heterophyllus graminifolius (Fries) Morong. *P. gramineus graminifolius* Flint, Macomb Co.; St. Clair Co., C. K. Dodge, and northward.

132. P. heterophyllus longipedunculatus Morong. Woodward Lake, Ionia Co., Fries. Detroit, O. A. Farwell; Bear Lake, Van Buren Co., E. J. Hill; Black Lake, Cheboygan Co., B. & K.

133. P. Hillii Morong. Hill's Pondweed. Marquette Co., E. J. Hill; St. Clair Co., C. K. Dodge; Sturgis, F. P. Daniels.

134. P. Illinoensis Morong. Manistee, F. P. Daniels.

135. P. interruptus Kitaibel. Interrupted Pondweed. Manistee, E. J. Hill; Port Huron, C. K. Dodge.

136. P. lateralis Morong. Opposite-leafed Pondweed. Bear Lake, Van Buren Co., E. J. Hill; St. Clair Lake & River, C. K. Dodge. Rare.

*137. P. lonchites Tuckerman. Long-leafed Pondweed. *P. fluitans* Roth. Hubbardston; Macomb Co.; Detroit River, D. H. Campbell; Portage Lake, Crawford Co.; Manistee, F. P. Daniels. Infrequent. L. P.

*138. P. lucens L. Shining Pondweed. Muskegon River, near Houghton Lake; Flint; S. Mich., Wright Cat.; Detroit River, D. H. Campbell; Lake Superior, Agassiz. Th.

139. P. marinus L. Crystal Lake near Frankfort, Benzie Co., E. J. Hill; St. Clair Co., C. K. Dodge.

*140. P. natans L. Common Floating Pondweed. Ponds. Frequent. Th.

141. P. Nuttallii Cham. & Sch. *P. Pennsylvanicus* Cham. Ionia Co.; Macomb Co., Dr. D. Cooley; Fruitport, E. J. Hill; Keweenaw Co., O. A. Farwell. Th.

142. P. obtusifolius Mertens & Koch. Blunt-leafed Pondweed. "Floating in Gratiot Lake, N. Mich." Gray's Manual. St. Clair Co., J. W. Stacey.

*143. P. pectinatus L. Fennel-leafed Pondweed. Frequent. Th.

*144. P. perfoliatus L. Clasping-leafed Pondweed. Detroit, O. A. Farwell; Ingham Co., C. F. Wheeler, and northward. Common.

146. P. perfoliatus Richardsonii A. Bennett. *P. perfolatus lanceolatus* Robbins. Detroit, O. A. Farwell; Bay Co., G. M. Bradford.

*147. P. praelongus Wulfen. White-stemmed Pondweed. Maple River; Pine Lake, Ingham Co.; Black Lake, Cheboygan Co. Common. Th.

148. P. pusillus L. Small Pondweed. Manistee Lake, E. J. Hill; Detroit River, D. H. Campbell; Manistee, F. P. Daniels; St. Clair Lake and River, C. K. Dodge.

*149. P. Robbinsii Oakes. Robbins' Pondweed. North shore of Lake Superior; Pine Lake, seven miles N. E. of the Agricultural College, the only station known in the L. P., C. F. Wheeler.

151. P. rutilis Wolfg. Slender Pondweed. Detroit River, between Peche Isle and Belle Isle, C. F. Wheeler; Round Lake, near Jackson; St. Clair Lake & River, C. K. Dodge.

152. P. spathulaeformis (Robbins) Morong. Spatulate-leafed Pondweed. New Baltimore, Lake St. Clair, A. J. Pieters, J. W. Stacey.

153. P. Spirillus Tuckerman. Spiral Pondweed. "Lake Superior," A. Gray's Manual; Keweenaw Co., O. A. Farwell; St. Clair Lake and River, C. K. Dodge.

154. P. Vaseyi Robbins. St. Clair Lake and River, C. K. Dodge; Algonac, W. S. Cooper.

*155. P. Zizii Roth. Ziz's Pondweed. *P. angustifolius* Berch & Presl. Crystal Lake, near Frankfort; Bear Lake, Manistee Co., E. J. Hill; Crystal Lake, Montcalm Co.; Woodward Lake, Ionia Co.; Detroit River, D. H. Campbell. Infrequent.

*156. P. zosteraefolius Schum. Eel-grass. Pondweed. Common. Th.

ZANNICHELLIA L.

157. Z. palustris L. Zannichellia. Dr. A. B. Lyons, Detroit; Bay City, G. M. Bradford. Rare.

NAIAS L.

*158. N. flexilis (Willd.) Rost. & Schmidt. Slender Naias. Ponds. Frequent. Th.

*159. N. flexilis robusta Morong. South Haven, Park Lake, Clinton Co., Bailey; St. Clair Co., C. K. Dodge.

160. N. marina L. Large Naias. Flint, Dr. D. Clark.

SCHEUCHZERIACEÆ Agardh. Arrow-Grass Family.

TRIGLOCHIN L.

161. T. maritima L. Seaside Arrow-grass. Shores of Great Lakes; borders of deer licks in interior; Macomb Co.; S. Mich., Wright Cat.; Hubbardston, Petoskey, C. F. Wheeler; Algonac, W. S. Cooper.
162. T. palustris L. Marsh Arrow-grass. Marshes. Frequent. Th.

SCHEUCHZERIA L.

163. S. palustris L. S. W. Wright Cat.; Macomb Co., Cooley; Hubbardston; Montcalm Co.; Keweenaw Co., O. A. Farwell. Infrequent.

ALISMACEÆ D C. Water-Plantain Family.

ALISMA L. Water-Plantain.

*164. A. plantago-aquatica L. Water Plantain. Shallow water. Common. Th.
165. A. tenellum Mart. Dwarf Water Plantain. *Echinodorus parvulus* Engelm. A. B. Lyons; Gray's Manual, 6th edition.

SAGITTARIA L.

*166. S. arifolia Nutt. Arum-leaved Arrow-head. Alma, C. A. Davis; St. Clair Co., C. K. Dodge; Belle Isle, O. A. Farwell.
167. S. cristata Engelm. Crested Arrow-head. St. Clair Co., and Sarnia, C. K. Dodge.
*168. S. graminea Michx. Grass-leaved Sagittaria. Dr. A. B. Lyons, Detroit; Park Lake, Clinton Co., L. H. Bailey; Belle Isle, O. A. Farwell. S.
*169. S. heterophylla Pursh. Elk Rapids, Winch. Cat.; Detroit, D. H. Campbell; Alma, Chas. A. Davis. Th.
*170. S. latifolia Willd. Broad-leaved Arrow-head. Wet places. Th. *S. variabilis* Engelm.
171. S. rigida Pursh. *S. heterophylla rigida* Engelm. Fruitport, E. J. Hill; Great Lakes.

VALLISNERIACEÆ Dumort. Tape-Grass Family

PHILOTRIA Raf. (Elodea Michx.)

*172. P. Canadensis (Michx.) Britton. Water-weed. *Elodea Canadensis* Michx. Slow streams. Common. Th.

VALLISNERIA L.

*173. V. spiralis L. Tape-grass. Eel-grass. Ann Arbor, Winch. Cat.; S. Haven, Bailey; Hubbardston, to Petoskey; Lake Superior, Agassiz. Slow streams. Common in Grand River and tributaries. Th.

GRAMINEÆ Juss. Grass Family.

ANDROPOGON L.

*174. A. furcatus Muhl. Forked Beard-grass. Light soil. Common. Th.
*175. A. scoparius Michx. Broom Beard-grass. Sterile soil. Frequent, L. P.
176. A. scoparius multiramea Hack. Manistee, F. P. Daniels.

SORGHASTRUM Nash. Chrysopogon Benth. Not Trin.

*177. S. avenaceum (Michx.) Nash. Indian Grass. *Chrysopogon avenaceus* Benth. Dry banks and sandy fields. Variable. Infrequent. C. & S.

PASPALUM L.

178. P. laeve Michx. S. W. H. S. Pepoon. Rare.
179. P. Muhlenbergii Nash. Detroit, O. A. Farwell.
*180. P. setaceum Michx. Detroit, O. A. Farwell.

SYNTHERISMA Walt. PANICUM L. in part.

*181. S. linearis (Krock.) Nash. Small Crab-grass. *Panicum glabrum* Gaudin. Waste places. Common.
*182. S. sanguinalis (L.) Dulac. Large Crab-grass. *Panicum sanguinale* L. Waste places, gardens and fields. A bad weed, difficult to dig up or pull out; grows quickly and is perhaps the worst weed we have in gardens, at least in some localities. S. linearis grows in the same situations but is smaller and easily eradicated. Th.

ECHINOCHLOA Beauv. PANICUM L. in part.

*183. E. Crus-galli (L.) Beauv. Barnyard-grass. *Panicum Crus-galli* L. Low grounds. Variable. Common.
*184. E. Walteri (Pursh.) Nash. Salt-marsh Cockspur Grass. *P. Crus-galli hispidum* Ell. Low river bank near Hubbardston where it appears to be indigenous, C. F. Wheeler. Common along streams. L. P.

PANICUM L.

185. P. boreale Nash. Northern Panicum. Grand Rapids, Miss E. J. Cole; Traverse City, C. F. Wheeler; Keweenaw Co., O. A. Farwell.
*186. P. capillare L. Old-witch Grass. Sandy soil, fields. The spreading panicle is easily broken off and blown about by the wind. Common. Th.
*187. P. clandestinum L. Hispid Panicum. Low grounds. Macomb Co.; Flint, Hubbardston; Bay Co., G. M. Bradford. Rare.
*188. P. Columbianum Scribn. Belle Isle, O. A. Farwell.
*189. P. commutatum Schultes. Variable Panicum. Detroit, O. A. Farwell; St. Clair Co., J. W. Stacey. Dry woods.
*190. P. depauperatum Muhl. Capac, W. S. Cooper. Starved Panicum. Dry woods and barrens. Common. Th.
*191. P. dichotomum L. Forked Panicum. Dry or low grounds. A very common and exceedingly variable grass. Some forms seem distinct enough to be considered species. The most common forms are:
*192. P. dichotomum commune S. Wats.
*193. P. dichotomum fasciculatum S. Wats.
*194. P. dichotomum gracile S. Wats. Th.
195. P. agrostoides Muhl. Long Panicum. Specimen in the College Herb., collected by Dr. Cooley, at Washington, Macomb Co. Only locality known in the State.
196. P. flexile (Gattinger) Scrib. Wiry Panicum. Detroit, O. A. Farwell; Port Huron, C. K. Dodge; Manchester, C. F. Wheeler.
*196a. P. macrocarpon Le Conte. Detroit, O. A. Farwell.
*197. P. implicatum Scribn. Keweenaw Co., O. A. Farwell.
*198. P. maculatum Ashe. "Formerly included in P. dichotomum." St. Clair Co., C. K. Dodge.
199. P. polyanthes Schul. Small-fruited Panicum. *P. microcarpon* Muhl. Washington, Macomb Co., Dr. Cooley.
200. P. miliaceum L. Millet. Detroit and Keweenaw Co., O. A. Farwell.
201. P. nitidum Lam. Shining Panicum. Washington, Macomb Co., Dr. Cooley; Keweenaw Co., O. A. Farwell; Manistee, F. P. Daniels.
202. P. proliferum Lam. Manistee, F. P. Daniels.
*203. P. Porterianum Nash. Porters Panicum. *P. latifolium* Walt. Rich woods. Northward to Oscoda Co. Common. L. P.
*204. P. pubescens Lam. Hairy Panicum. Common. C. & S.
*205. P. Scribnerianum Nash. Scribner's Panicum. *P. scoparium* S. Wats. Not Lam. Hubbardston. Along the R. R. between St. Johns and Muir, northward to Baldwin; Bay Co., G. M. Bradford; Detroit, O. A. Farwell. Frequent in light sandy soil. Th.
*206. P. sphaerocarpon Ell. Round-fruited Panicum. *P. microcarpon sphaero-*

carpon (Ell.) Beal. Jackson, S. H. Camp; Detroit, O. A. Farwell; St. Clair Co., J. W. Stacey; Bay Co., G. M. Bradford.

*207. **P. virgatum** L. Tall Smooth Panicum. S. Mich., Wright Cat.; Ionia, Flint; Sturgis, F. P. Daniels. A tall coarse grass along rivers. Infrequent. Th.

208. **P. xanthophysum** A. Gray. Slender Panicum. N. & U. P. Grand Traverse Co., Indian River and Black Lake; Cheboygan Co., C. F. Wheeler; Alma, C. A. Davis; Manistee, F. P. Daniels; Northward to Keweenaw Co., O. A. Farwell.

CHAETOCHLOA Scribn. SETARIA Beauv.

*209. **C. glauca** (L.) Scrib. Yellow Foxtail. *Setaria glauca* Beauv. Cultivated Fields. Common. Th.

*210. **C. Italica** (L.) Scrib. Hungarian Grass, Italian or German Millet. *Setaria Italica* R. & S. Persisting after cultivation.

211. **C. verticillata** (L.) Scribn. *Setaria verticillata* Beauv. Ypsilanti, O. A. Farwell.

*212. **C. viridis** (L.) Scrib. Green Foxtail. *Setaria viridis* Beauv. Cultivated fields. Common. Th.

CENCHRUS L.

*213. **C. tribuloides** L. Sand-bur. Bur-grass. This bad weed has begun to occupy the S. part of the State, as far north as Bay City. Not as yet troublesome in fields, but likely to become so on sandy farms.

ZIZANIA L.

214. **Z. aquatica** L. Indian Rice. Water Oats. Borders of large streams and lakes. Yields an edible grain, gathered by the Indians, and greedily eaten by wild ducks which haunt lakes and rivers during its ripening in innumerable numbers. Th.

HOMALOCENCHRUS Mieg. (LEERSIA Sw.)

*215. **H. oryzoides** (L.) Poll. Rice Cut-grass. *L. oryzoides* Sm. Ditches and wet lands. Frequent. Th.

*216. **H. Virginicus** (Willd.) Britton. White Grass. *L. Virginica* Willd. Wet woods and river banks. Th.

PHALARIS L.

*217. **P. arundinacea** L. Reed Canary-grass. Borders of streams. "var. picta, the leaves striped with white, is the familiar ribbon-grass of the garden," Gray's Manual. Ann Arbor, Prof. M. W. Harrington; S. Mich., Winch. Cat.; Macomb Co.; Flint; Hubbardston; northward to L. Superior, Whitney Cat. Th.

218. **P. Canariensis** L. Canary-grass. Occasionally found in waste places.

ANTHOXANTHUM L.

*219. **A. odoratum** L. Sweet Vernal-grass. Ionia; Grand Rapids, Coleman Cat.; well established in the College lawn. Rare.

SAVASTANA Schrank. HIEROCHLOE Gmel.

220. **S. odorata** (L.) Scribn. Holy Grass. *Hierochloe borealis* R. & S. Not confined to the shores of the Great Lakes; rarely found in the central part of the State. Ionia, Hubbardston, C. F. Wheeler; Macomb Co.; Flint; S. E., Winch. Cat.; Ann Arbor, C. A. Davis. More common northward. Th.

ARISTIDA L.

221. **A. gracilis** Ell. Slender Aristida. Port Huron, C. K. Dodge; near Ann Arbor, C. A. Davis.

222. **A. purpurascens** Poir. Sturgis, F. P. Daniels.

STIPA L. Feather-grass.

223. S. avenacea L. Black Oat-grass. S. W., Wright Cat.; South Haven, Bailey; Baldwin; Dundee; Cass Co.; Point Aux Pins, Macoun Can. Cat. Infrequent. Th.
*224. S. spartea Trin. Porcupine-grass. Dry plains. S. Mich., Wright Cat.; Macomb Co.; shore of Woodward Lake, Ionia Co.; hills along Grand River near Ionia; Ann Arbor, Tuscola Co., C. A. Davis.

ORYZOPSIS Michx.

*225. O. asperifolia Michx. White-grained Mountain Rice. Hillsides. Common.
226. O. juncea (Michx.) B. S. P. Slender Mountain Rice. *O. Canadensis* Torr. Sterile soil. S. E., Wright Cat.; Hubbardston; Montcalm Co., C. A. Davis; Macomb Co.; common in Clare Co.; frequent from Ionia northward. Th.
*227. O. melanocarpa Muhl. Black-fruited Mountain Rice. Woods. S. Mich., Wright Cat.; S. Haven; Macomb Co.; Flint; Hubbardston. Infrequent. C. & S.

MILIUM L.

*228. M. effusum L. Tall Millet-grass. Woods. Frequent. Th.

MUHLENBERGIA Schreber.

*229. M. diffusa Willd. Nimble Will. Open woods, becoming frequent around dwellings. S. Mich., Wright Cat.; So. Haven, Bailey; Flint; Hubbardston; C. F. Wheeler; Ann Arbor, C. A. Davis. C. & S.
*230. M. Mexicana (L.) Trin. Meadow Muhlenbergia. Low grounds. Variable. Frequent. Th.
*231. M. racemosa (Michx.) B. S. P. Marsh Muhlenbergia. *M. glomerata* Trin. Marshes. Infrequent. Th.
*232. M. sylvatica Torr. Wood Muhlenbergia. Hubbardston; Flint; Lake Superior, Agassiz. Frequent. Th.
*233. M. tenuiflora (Willd.) B. S. P. Slender Muhlenbergia. *M. Willdenovii* Trin. Flint; Macomb Co.; S. Mich., Wright Cat.; Muskegon, C. F. Wheeler. Rare. C. S.

BRACHYELYTRUM Beauv.

*234. B. erectum (Schreb.) Beauv. *B. aristatum* Beauv. Woods. Frequent.

PHLEUM L.

235. P. alpinum L. Mountain Timothy. L. Superior, Whitney Cat.; Keweenaw Co., O. A. Farwell.
*236. P. pratense L. Timothy. Herd's-Grass. Meadows everywhere.

ALOPECURUS L.

*237. A. geniculatus L. Marsh Foxtail. *A. geniculatus aristulatus* Torr. S. Mich., Wright Cat.; Macomb Co.; Bay Co., G. M. Bradford. Th.
*238. A. pratensis L. Meadow Foxtail. Cultivated from Europe and escaped.

SPOROBOLUS R. Br.

239. S. brevifolius (Nutt.) Nash. Keweenaw Co., O. A. Farwell.
240. S. cryptandrus (Torr.) A. Gray. Sand Dropseed. S. Mich., Winch. Cat.; Point Edward, River St. Clair, Macoun; Bay City, W. J. B.; shore of Gull Lake, Augusta, Kalamazoo Co. Infrequent. C. & S.
*241. S. neglectus Nash. Small Rush-grass. Frequent. Lansing, Saugatuck, C. F. Wheeler; Detroit, O. A. Farwell.
242. S. serotinus (Torr.) A. Gray. Late-flowered Dropseed. Sandy wet places, Gray's Manual; Keweenaw Co., O. A. Farwell. Rare.
*243. S. vaginaeflorus (Torr.) Wood. Sheathed Rush-grass. Flint; Detroit, Dr. A. B. Lyons; Ann Arbor, C. A. Davis. Rare. C. & S.

CINNA L.

*244. C. arundinacea L. Low grounds. Frequent.
*245. C. latifolia (Trev.) Griseb. Slender Wood Reed-grass. *C. pendula* Trin. Wet woods throughout.

AGROSTIS L.

*246. A. alba L. Fiorin or White Bent-grass. Red Top. *A. alba vulgaris* Thurber. Naturalized from Europe. A common pasture and meadow grass.
*247. A. alba stolonifera (L.) Vasey. Detroit, O. A. Farwell.
*248. A. canina L. Brown Bent-grass. Ann Arbor, Winch. Cat., Ronald, Ionia Co. Infrequent.
*249. A. coarctata Ehrh. Detroit, O. A. Farwell.
*250. A. hyemalis (Walt.) B. S. P. Rough Hair-grass. *A. scabra* Willd. Marshes and sterile soil. Common. Th.
*251. A. perennans (Walt.) Tuckerman. Thin-grass. Swamps and damp woods. S. Mich., Wright; Macomb Co.; Hubbardston. Infrequent.
*252. A. pseudo-intermedia O. A. Farwell. New name for *A. intermedia* Scribn. Detroit, O. A. Farwell.

CALAMAGROSTIS Adans.

*253. C. Canadensis (Michx.) Beauv. Blue-Joint. Common.
254. C. confinis (Willd.) Nutt. Bog Reed-grass. *C. Lapponica* Trin. Isle Royale, Lake Superior, T. C. Porter; Sturgis, F. P. Daniels.
255. C. Langsdorfii (Link.) Trin. Langsdorf's Reed-grass. Isle Royale, T. C. Porter.
256. C. neglecta (Ehrh.) Gaertn. Narrow Reed-grass. *C. stricta* Beauv. Flint, D. Clark; S. W., H. S. Pepoon; and northward to Lake Superior, A. Gray. Rare.

AMMOPHILA Host.

257. A. arenaria (L.) Link. Sea Sand-reed. N. & U. P. *A. arundinacea* Host. This is one of the few plants found both by the ocean and the shores of the Great Lakes, Petoskey; Point au Chene, Winch. Cat.; shores of Lake Huron, C. K. Dodge. Infrequent.

CALAMOVILFA Hack.

258. C. longifolia (Hook.) Hack. Long-leaved Reed-grass. *Calamagrostis longifolia* Hook. Sand dunes along L. Michigan. S. Haven, Bailey; Petoskey; Point au Chene, Winch. Cat.; Oscoda. Th.

APERA Adans.

*259. A. Spica-venti L. Beauv. College lawn.

DESCHAMPSIA Beauv.

*260. D. caespitosa (L.) Beauv. Tufted Hair-grass. In bogs. Frequent. Th.
261. D. flexuosa (L.) Trin. Common Hair-grass. Oscoda; Baldwin, to Lake Superior; Keweenaw Co., O. A. Farwell.

TRISETUM Pers.

262. T. subspicatum (L.) Beauv. Narrow False-oat. *T. subspicatum molle* A. Gray. Marquette, E. J. Hill; Whitney's Cat. Common. U. P.

AVENA L.

263. A. Smithii Porter. Smith's Oat. *Melica Smithii* Vasey. Keweenaw Point; Isle Royale, Dr. Robbins, in Gray's Man.; woods near Sault Ste. Marie, C. E. Smith; shore of Crystal Lake, Benzie Co., L. H. Dewey; Vanderbilt, Otsego Co.; Keweenaw Co., O. A. Farwell.
*264. A. striata Michx. Oat Grass. Woods. Infrequent.

ARRHENATHERUM Beauv.

*265. A. elatius (L.) Beauv. Tall Oat-grass. *A. avenaceum* Beauv. Bay Co., Macomb Co. Escaped from cultivation.

DANTHONIA DC.

266. D. intermedia Vasey. Keweenaw Co., O. A. Farwell.
*267. D. spicata (L.) Beauv. Wild Oat-grass. Sterile soil. Frequent. Th.

CAPRIOLA Adans. CYNODON Rich.

*268. C. Dactylon (L.) Kuntze. Bermuda-grass. Near the depot of the Chicago and Grand Trunk R. R. in Lansing.

SPARTINA Schreb.

*269. S. cynosuroides (L.) Willd. Fresh-water Cord-grass. Banks of rivers, to N. Shore L. Superior, Agassiz. Tuscola and Washtenaw. Th.

ATHEROPOGON Muhl. BOUTELOUA Lagasca. in part.

270. A. curtipendulus (Michx.) Fourn. *Bouteloua racemosa* Lag. Dry plains. S. Mich., Wright Cat.; Macomb Co., on farm of L. D. Watkins, Manchester; Sturgis, F. P. Daniels.

ELEUSINE Gaertn.

*271. E. Indica (L.) Gaertn. Dog's-tail or Wire-grass. S. & C. Ionia Co.; South Haven, Bailey; S. Mich., Wright Cat. Infrequent. S. & C.

PHRAGMITES Trin.

*272. P. Phragmites (L.) Karst. Reed. *P. communis* Trin. Swamps. Infrequent. Th.

TRICUSPIS Beauv. TRIODIA R. Br., in part.

273. T. seslerioides (Michx.) Torr. Tall Red-top. *Triodia cuprea Jacq.* S. Mich., Wright's Cat. S. E.

TRIPLASIS Beauv. TRIODIA R. Br., in part.

274. T. purpurea (Walt.) Chapm. Sand-grass. Shore of Lake Erie, Monroe Co., C. F. Wheeler; shore of Lake Huron, C. K. Dodge.

ERAGROSTIS Beauv.

275. E. capillaris (L.) Nees. Capillary Eragrostis. Coleman's Cat.; S. Mich., Wright's Cat.; Ann Arbor, M. W. Harrington. Rare.

*276. E. Eragrostis (L.) Karst. Low Eragrostis. *Eragrostis minor* Host.

*277. E. Frankii Steud. Frank's Eragrostis. Roadsides in low ground. Hubbardston; Gratiot Co.; Grand Rapids; Detroit, O. A. Farwell. Frequent. C. & S.

*278. E. hypnoides (Lam.) B. S. P. Creeping Eragrostis. *E. reptans* Nees. Gravelly borders of streams. Common.

*279. E. major Host. Stink Grass. Waste places and gardens, a common weed. Th.

280. E. pectinacea (Michx.) Steud. Purple Eragrostis. *E. pectinacea spectabilis* A. Gray. Dry sandy ground. S. Mich., Wright Cat. Reaches its northern limits at Howard City. Infrequent. C. & S.

281. E. pilosa (L.) Beauv. Tufted Eragrostis. Grand Rapids, Coleman's Cat.; Macomb Co.; Detroit, O. A. Farwell; S. W., H. S. Pepoon.

282. E. Purshii Schrad. Pursh's Eragrostis. Norway, C. F. Wheeler; Rochester, W. A. Brotherton and J. W. Stacey; Detroit, O. A. Farwell; Bay Co., G. M. Bradford. I see no way of distinguishing this species from E. pilosa (L.) Beauv. and believe them to be the same.

EATONIA Raf.

*283. E. nitida (Spreng.) Nash. Slender Eatonia. *E. Dudleyi* Vasey. Hubbardston, C. F. Wheeler; Orion, O. A. Farwell. Rare.

*284. E. obtusata (Michx.) A. Gray. Blunt-scaled Eatonia. S. E., Wright Cat.; Flint; Hubbardston, northward. Rare.

*285. E. Pennsylvanica (D C.) A. Gray. Moist woods. Common. Th.

KOELERIA Pers.

*286. K. cristata (L.) Pers. Dry hills. Frequent. Th.

KORYCARPUS Zea. DIARRHENA Raf.

*287. K. diandrus (Michx.) Kuntze. *Diarrhena American* Beauv. S. Mich., Wright Cat.; Flint; Hubbardston. Reaches its northern limits in Ionia Co. Rare.

BRIZA L.

288. B. media L. Quaking Grass. Bay City, G. M. Bradford, C. A. Davis.

CYNOSURUS L.

289. Cynosurus cristatus L. Dog's-tail Grass. Scarce.

DACTYLIS L.

*290. D. glomerata L. Cock's Foot. Orchard Grass. Escaped from cultivation and becoming frequent.

POA L.

291. P. alpina L. Alpine Spear-grass. U. P. Isle Royale, C. G. Loring, Jr., in Gray's Manual); Keweenaw Co., O. A. Farwell. U. P.

*292. P. alsodes A. Gray. Grove Meadow-grass. Banks of brooks, flowering early. Flint; Hubbardston; Inland, Grand Traverse Co. Infrequent. L. P.

*293. P. annua L. Low Spear-grass. Low grounds. Common. Th.

294. P. autumnalis Muhl. Flexuous Spear-grass. *P. flexuosa* Muhl. Swamps. Hubbardston; Constantine, C. F. Wheeler; Flint, Dr. Clark; Rochester, O. A. Farwell.

*295. P. compressa L. Wire-grass. Blue Grass (of N. Eng. and N. Y.). Dry fields. Common. Th.

*296. P. debilis Torr. Weak Spear-grass. Hillsides. S. Mich., Winch. Cat.; Macomb Co.; Hubbardston to N. Shore of Lake Superior, Macoun. Infrequent. Th.

*297. P. flava L. Fowl Meadow-grass. *P. serotina* Ehrh. Wet meadows, where it is a valuable grass, sometimes mistaken for Red-top, Agrostis aba. Th.

298. P. glauca Vahl. Glaucous Spear-grass. Near Grayling; Isle Royale; Keweenaw Co., O. A. Farwell.

300. P. nemoralis L. Wood Meadow-grass. *P. caesia strictoir* A. Gray. Throughout N. Mich. Infrequent except in the north.

*301. P. pratensis L. Kentucky Blue Grass. June Grass. Pastures and meadows.

302. P. sylvestris A. Gray. Sylvan Spear-grass. Low woods. S. Mich., Winch. Cat.; Flint; Hubbardston. Rare. C. & S.

303. P. trivialis L. Roughish Meadow-Grass. S. Mich., Wright Cat.; Flint. Sparingly in cultivation.

GRAPHEPHORUM Desv.

*304. G. melicoideum (Michx.) Beauv. River banks. Macomb Co.; Flint; Hubbardston; Petoskey; Grand Detour, Upper Michigan, Prof. Porter. Rare South, abundant at Pic River, Macoun. Th.

305. G. melicoides major A. Gray. Swamps. Hubbardston; Washington, Macomb Co.

PANICULARIA Fabr. GLYCERIA R. Br.

*306. P. Americana (Torr.) MacM. Tall Manna-grass. *Glyceria grandis* S. Wats. Common. Th.

*307. P. Canadensis (Michx.) Kuntze. Rattlesnake-grass. *Glyceria Canadensis* Trin. Borders of marshes. S. W., Winch. Cat.; Flint; Ionia Co. Infrequent. Th.

*308. P. fluitans (L.) Kuntze. Floating Manna-grass. *Glyceria fluitans* R. Br. Shallow water. Common. Th.

308a. P. laxa Scribn. Northern Manna-grass. Muskegon, W. J. B.; Keweenaw Co., O. A. Farwell.

*309. P. nervata (Willd.) Kuntze. Nerved Manna-grass. *Glyceria nervata* Trin. Very variable. Woods and wet meadows. Th.

*310. P. pallida (Torr.) Kuntze. Pale Manna-grass. *Glyceria pallida* Trin. Constantine, Wheeler; Keweenaw Co., O. A. Farwell; Manistee and Sturgis, F. P. Daniels. Wet places. Rare. S.

PUCCINELIA Parl.

311. P. airoides (Nutt.) S. Wats. Slender Meadow-grass. Bay City, G. M. Bradford. Near salt works.

FESTUCA L.

*312. F. elatior L. Taller Meadow Fescue. *F. elatior pratensis* A. Gray. Meadows and roadsides.

*313. F. nutans Willd. Nodding Fescue-grass. Woods. Frequent. L. P.

*314. F. octoflora Walt. Slender Fescue-grass. *F. tenella* Willd. Dry grounds. Infrequent. Th.

*315. F. ovina L. Sheep's Fescue. Dry grounds. Common. Very variable. Th.

*316. F. ovina capillata (Lam.) Hack. Hair-leaved Fescue. In lawns. Not uncommon.

317. F. ovina duriuscula (L.) Hack. Hard Fescue. S. Mich., Wright Cat.; Petoskey; Bay Co., G. M. Bradford; Keweenaw Co., Robbins; Isle Royale, Gillman. Sparingly in cultivation. Th.

*318. F. ovina marginata Hack. In lawns. Common.

319. F. rubra heterophylla Hack. Variable-leaved Fescue. Clifton, O. A. Farwell; Frankfort, W. J. B.; shores of Traverse Bay; Muskegon, C. F. Wheeler.

BROMUS L.

*320. B. asper Murr. Hairy Brome-grass. Gray's Manual.

321. B. breviaristatus Thurb. Short-awned Chess. First collected on low sand dunes near Bay View in August, 1879, by C. F. Wheeler. In June, 1881, Prof. V. M. Spalding also collected this species near Charlevoix. The farthest station east known for this grass.

322. B. brizaeformis Fisch & Mey. Quake-grass. Manistee, F. P. Daniels.

*323. B. ciliatus L. Fringed Brome-grass. *B. purgans* L. Frequent. Variable.

*324. B. hordeaceus L. Soft Chess. *B. mollis* L. Agricultural College, W. J. B.; Detroit, O. A. Farwell.

*325. B. inermis Leyss. Awnless Brome-grass. Sandy meadows. Spreading.

*326. B. Kalmii A. Gray. Wild Chess. Dry open woods. S. E., Wright's Cat.; Flint; Macomb Co.; Hubbardston; northward to Quinnessec, E. J. Hill. Infrequent.

327. B. racemosus L. Smooth Brome-grass. Detroit, O. A. Farwell; Alma, C. A. Davis. Th.

*328. B. secalinus L. Chess. Cheat. Too common in wheat fields.

328a. B. sterilis L. Barren Brome-grass. Bay City, G. M. Bradford.

*329. B. tectorum L. Downy Brome-grass. Grand Rapids. Spreading rapidly; Detroit, O. A. Farwell; Bay Co., G. M. Bradford.

LOLIUM L.

331. L. perenne L. Common Darnel. Ray or Rye-grass. Macomb Co., Dr. Cooley; Ionia Co.; Bay City, G. M. Bradford. Scarcely naturalized.

332. L. temulentum L. Bearded Darnel. Scarcely naturalized. Flint; Macomb Co.; S. Mich., Wright Cat.

AGROPYRON Gaertn.

*333. A. caninoides (Ramalay) Beal. Lansing, escaped from cultivation.

334. A. caninum (L.) R. & S. Awned Wheat-grass. Th. S. Mich., Winch. Cat.; Macomb Co.; Hubbardston; northward.

335. A. dasystachyum (Hook.) Vasey. Northern Wheat-grass. Common at Petoskey; N. W., Winch. Cat.; Oscoda and the sandy shores of the great lakes; Keweenaw Co., O. A. Farwell. N. & U. P.

336. A. occidentale Scribn. Occasional. Port Huron, C. K. Dodge.

337. A. pseudorepens S. and S. Shores of Grand Traverse Bay, C. F. Wheeler; St. Clair Co., C. K. Dodge; Keweenaw and Marquette counties, O. A. Farwell.

*338. A. repens (L.) Beauv. Quick-grass or Quack-grass. Cultivated grounds. Varies greatly. Sometimes grows to the exclusion of everything else, and is widespread enough to be considered a pest. Th.

339. A. Richardsoni Shreb. Bay View, W. J. B.; shore of Grand Traverse Bay, C. F. Wheeler; Keweenaw Co., O. A. Farwell.

340. A. spicatum (Pursh.) Scribn. & Small. Western Wheat-grass. Introduced into Bay City, G. M. Bradford; Keweenaw Co., Detroit, O. A. Farwell.

341. A. tenerum Vasey. Port Huron; along railroads; an advent from the west, C. K. Dodge.

342. A. violaceum (Hornem.) Vasey. Purplish Wheat-grass. Keweenaw Peninsula, Farwell; Lake Superior, Porter.

SECALE L.

*343. S. cereale L. Rye. Escaped from cultivation.

HORDEUM L.

*344. H. jubatum L. Squirrel-tail Grass. Sands. N. shore of Lake Superior, Agassiz; Sault de Ste. Marie, R. Bell; Bay City. Infrequent. Th.

345. H. nodosum L. Detroit, O. A. Farwell. Occasional.

ELYMUS L.

*346. E. Canadensis L. Nodding Wild Rye. *E. Canadensis glaucifolius* A. Gray. River banks. Common. Th.

347. E. glaucus Buckl. Smooth Wild Rye. S. W., H. S. Pepoon. Britton and Brown. *E. Sibiricus Americanus* S. Wats. & Coul. Marquette, Porter in Gray's Manual; Keweenaw Co., O. A. Farwell.

348. E. mollis Trin. Smooth Wild Rye. Shores of the Great Lakes, Gray's Manual; north shore of Lake Superior, Agassiz.

*349. E. robustus Scribn. & Sm. Muskegon, C. D. McLouth; Lansing, W. J. B.

*351. E. striatus Willd. Slender Wild Rye. *E. striatus villosus* A. Gray. S. Mich., Wright Cat.; Flint; Hubbardston; Manistee, F. P. Daniels; northward to L. Superior. Th.

*352. E. Virginicus L. Virginia Wild Rye. River banks. Common. Th.

*353. E. Virginicus glaucus Beal. Grand River Valley, with the species. W. J. B.

HYSTRIX Moench. Asprella Willd.

*354. Hystrix Hystrix (L.) Millsp. Bottle-Brush grass. Th. *Asprella Hystrix* Willd. Moist woods. A variety of this grass is found in one locality near Hubbardston with smooth and very glaucous culms, leaves rough, hairy.

CYPERACEÆ J. St. Hil. Sedge Family.

CYPERUS L.

*356. C. diandrus Torr. Low Cyperus. Low grounds. Common. C. & S.

358. C. Engelmanni Steud. Englemann's Cyperus. Fruitport, E. J. Hill; shore of Park Lake, Clinton Co., C. F. Wheeler; St. Clair Co., C. K. Dodge. Rare.

*359. C. erythororhizos Muhl. Red-rooted Cyperus. Macomb Co., D. Cooley; Bay City, G. M. Bradford. Infrequent.

*360. C. esculentus L. Yellow Nutt-grass. A troublesome weed on low grounds, spreading rapidly by means of its nut-like tubers. Hard to eradicate. Muir; Flint; Grand Rapids; Detroit; north to Oscoda. Frequent. L. P.

361. C. esculentus angustispicatus Britton. Detroit, A. O. Farwell.

*362. C. filiculmis Vahl. Slender Cyperus. Sterile soil. Common. C. & S.

363. C. flavescens L. Yellow Cyperus. Grand Rapids, Coleman Cat.; S. Mich., Wright Cat. Rare. S.

364. C. Houghtonii Torr. Houghton's Cyperus. Hilltops near Indian River, Wheeler; Long Lake, Cheboygan Co., B. & K. St. Clair., C. K. Dodge.

*365. C. inflexus Muhl. Awned Cyperus. *C. aristatus* Boeckl. Grand Rapids, Coleman; Ionia; banks of Cedar River, Agricultural College. Not common.

366. C. refractus Engelm. Detroit, O. A. Farwell.

*367. C. rivularis Kunth. Shining Cyperus. *C. diandrus castaneus* Torr. Frequent.

368. C. Schweinitzii Torr. Schweinitz's Cyperus. Lake Michigan shore at South Haven, L. H. Bailey; Kalamazoo, Tuthill; Manistee, F. P. Daniels, S. West, H. S. Pepoon.

369. C. speciosus Vahl. Michaux's Cyperus. Low grounds. Hubbardston; Flint.
*370. C. strigosus L. Straw-colored Cyperus. Low grounds. Common. C. & S.
371. C. strigosus capitatus Boeckl. Detroit, O. A. Farwell.
372. C. strigosus robustior Kunth. Detroit, O. A. Farwell.

KYLLINGA Rott.

374. K. pumila Michx. Low Kyllingia. Dr. Lyons. S.

DULICHIUM L. C. Richard.

*375. D. arundinaceum (L.) Britton. *D. spathaceum* Pers. Borders of swamps and ponds. Common. Th.

ELEOCHARIS R. Br.

*376. E. acicularis (L.) R. & S. Spike-rush. Alma, Washtenaw Co., C. A. Davis. Th.
377. E. acuminata (Muhl.) Nees. Flat-stemmed Spike-rush. Shores of lakes.
378. E. Engelmanni Steud. Engelmann's Spike-rush. Jackson, S. H. Camp; Detroit, O. A. Farwell.
*379. E. intermedia (Muhl.) Schultes. Matted Spike-rush. Macomb Co., Dr. D. Cooley; Grand Traverse Bay, Winch. Cat.; Hubbardston, C. F. Wheeler; Alma, C. A. Davis. Low river banks.
380. E. interstincta (Vahl.) R. & S. Knotted Spike-rush. *E. equisetoides* Torr. Wright Cat., Jackson Co., 1838.
*381. E. mutata (L.) R. & S. Quadrangular Spike-rush. *E. quadrangulata* R. & S. S. Mich., A. Gray; Flint; borders of Crystal Lake, Montcalm Co.; shores of Park Lake and Pine Lake; Algonac, W. S. Cooper. Infrequent. C. & S.
381a. E. obtusa Schults. Ovoid Spike-rush. Wet grounds. N. shore of L. Superior, Agassiz; southward; St. Clair Co., C. K. Dodge; Alma, Ann Arbor, C. A. Davis. Th.
*382. E. olivacea Torr. Bright-green Spike-rush. Shores of Park Lake, Clinton Co., Wheeler; Vestaburg, C. A. Davis.
*383. E. ovata (Roth.) R. & S. Keweenaw Co., O. A. Farwell.
*384. E. palustris (L.) R. & S. Creeking Spike-rush. Wet places. Alma, Ann Arbor, C. A. Davis; Bay Co., G. M. Bradford.
385. E. palustris calva A. Gray. Lake Antoine, E. J. Hill.
*386. E. palustris glaucescens (Willd.) A. Gray. Alma, C. A. Davis. Frequent.
*387. E. Robbinsii Oakes. Robbins' Spike-rush. Shallow water. Park Lake, Clinton Co. The only station known in the State, C. F. Wheeler.
*388. E. palustris vigens L. H. Bailey. Indian River, Cheboygan Co.; along the Great Lakes, Gray's Man. Keweenaw Co., O. A. Farwell.
389. E. rostellata Torr. Beaked Spike-rush. Marshes. Hubbardston; Macomb Co., Drummond's I., Winch. Cat. Tuscola and Washtenaw Counties, C. A. Davis; Bay Co., G. M. Bradford. Rare.
390. E. tenuis (Willd.) Schultes. Slender Spike-rush. Oscoda; east coast of L. Superior, Canadian Cat.; Keweenaw Co., O. A. Farwell; Ann Arbor, C. A. Davis. Th.

PSILOCARYA Torr.

391. P. scirpoides Torr. Long-beaked Bald-rush. Shore of Crooked Lake, near Grand Rapids, Miss E. J. Cole.

STENOPHYLLUS Raf.

392. S. capillaris (L.) Britton. Hair-like Stenophyllus. *Fimbristylis capillaris* A. Gray. S. Mich., Wright; Detroit; St. Clair Co., C. K. Dodge; Algonac, W. S. Cooper. Rare.

FIMBRISTYLIS Vahl.

*393. F. autumnalis (L.) R. & S. Slender Fimbristylis. S. Mich., Wright; Pine Lake, Ingham Co., Manistee, F. P. Daniels; Vestaburg, C. A. Davis.
394. F. castanea (Michx.) Vahl. Marsh Fimbristylis. Port Huron, C. K. Dodge.

SCIRPUS L.

*395. S. Americanus Pers. Three-square. *S. pungens* Vahl. Borders of ponds, Alma, Ann Arbor, C. A. Davis. Common. Th.

*396. S. atrovirens Muhl. Dark green Bulrush. Alma, Ann Arbor, C. A. Davis. Wet meadows. Common.

397. S. atrovirens pallidus Britton. Introduced from the west into Bay Co., G. M. Bradford; Keweenaw Co., Detroit, O. A. Farwell.

398. S. caespitosus L. Tufted Club-rush. Dr. A. B. Lyons; Marquette, E. J. Hill; north shore of Lake Superior, Agassiz. U. P.

*399. S. Clintonii A. Gray. Clinton's Club-rush. Bluffs along Fish Creek, Hubbardston; Bath, L. H. Bailey; St. Clair Co., C. K. Dodge; Bay City, C. A. Davis. Rare. C.

*400. S. cyperinus (L.) Kunth. Wool-grass. Wats. & Coult. Alma, Ann Arbor, C. A. Davis. Frequent and variable.

401. S. cyperinus Eriophorum (Michx.) Britton. *Eriphorum cyperinum laxum.* Keweenaw Co., O. A. Farwell; Bay City, G. M. Bradford.

*402. S. debilis Pursh. Weak-stalked Club-rush. Macomb Co., Cooley; Park Lake, Clinton Co., Wheeler; St. Clair Co., C. K. Dodge; Manistee, F. P. Daniels; Alma, C. A. Davis. Rare.

403. S. Hallii A. Gray. Muskegon, C. D. McLouth.

404. S. fluviatilis (Torr.) A. Gray. River Club-rush. Margins of rivers, S. Mich., Winch. Cat.; Macomb Co.; Hubbardston; Detroit; abundant along Maple River; west of Lake Superior, Macoun. Th.

*405. S. lacustris L. Great Bulrush. In still water. Common. Th.

*406. S. lineatus Michx. Reddish Bulrush. Common in Bay Co., G. M. Bradford; S. W., H. S. Pepoon. River banks, S. Mich., Winch Cat.; Flint; Macomb Co.; Hubbardston; St. Clair Co., C. K. Dodge; Keweenaw Co.; Alma, Ann Arbor, C. A. Davis.

407. S. microcarpus Presl. Small-fruited Bulrush. *S. sylvaticus digynus* Boeckl. Lake Nipigon, Ont., Macoun; Keweenaw Co., O. A. Farwell; Manistee, F. P. Daniels.

408. S. nanus Spreng. Dwarf Club-rush. Hubbardston; Clinton Co., E. F. Smith. *Eleocharis pygmaea* Torr.

409. S. Olneyi A. Gray. Olney's Bulrush. Border of deer lick near Hubbardston, Wheeler.

410. S. pauciflorus Lightf. Few-flowered Club-rush. Grand Rapids, Miss E. J. Cole; Port Austin, C. A. Davis. Frequent northward.

411. S. polyphyllus Vahl. Leafy Bulrush. S. Mich., Wright Cat.

*412. S. Smithii A. Gray. Smith's Club-rush. Shore of Park Lake, C. F. Wheeler, 1891; Bay Co., G. M. Bradford; Manistee, F. P. Daniels.

*413. S. subterminalis Torr. Water Club-rush. Houghton Lake; Woodward Lake, Ionia Co.; Flint; Macomb Co.; S. Mich., Wright Cat.; north of Lake Superior. Can. Cat.; Alma, C. A. Davis. Infrequent.

413a. S. sylvaticus L. Wood Bulrush. Keweenaw Co., O. A. Farwell.

*414. S. Torreyi Olney. Torrey's Bulrush. Border of Pine Lake, Ingham Co., Bailey.

ERIOPHORUM L.

415. E. alpinum L. Alpine Cotton-grass. Mud Lake; Petoskey, E. J. Hill; Macomb Co., Cooley; Elk Rapids, W. S. Cooper; Keweenaw Co. Infrequent. Th.

416. E. gracile Koch. Slender Cotton-grass. S. Mich. Wright Cat.; Flint; Hubbardston; Montcalm Co., and northward; Kalamazoo, Tuthill; Ann Arbor, C. A. Davis. Rare. Th.

*418. E. polystachyon L. Tall Cotton-grass. Swamps. Common. Th.

*419. E. vaginatum L. Sheathed Cotton-grass. Sphagnous swamps. S. Mich., Winch. Cat.; Macomb Co.; St. Clair Co., C. K. Dodge; near Ann Arbor, C. A. Davis; Hubbardston; Bay Co., and northward. Th.

*420. E. Virginicum L. Virginia Cotton-grass. Sphagnous swamps. Ann Arbor, Allmend. Cat.; Flint; Bay Co.; Hubbardston, Vestaburg, C. A. Davis, northward. Infrequent. Th.

421. E. Virginicum album A. Gray. Keweenaw Co., O. A. Farwell.

FUIRENA Rottb.

422. F. squarrosa Michx. Squarrose Fuirena. *F. squarrosa pumila* Torr. Macomb Co., Dr. D. Cooley. Rare. C.

HEMICARPHA Nees and Arn.

*423. H. micrantha (Vahl.) Britton. C. & S. *H. subsquarrosa* Nees. S. W., Wright Cat.; Pine Lake, Ingham Co. Rare.

RHYNCHOSPORA Vahl.

424. R. alba (L.) Vahl. White Beaked-rush. Bogs. Ann Arbor, Allmend. Cat.; Macomb Co.; Hubbardston; N. E., Winch. Cat.; Keweenaw Co., F.; Mackinaw City, Wheeler; Alma, Ann Arbor, C. A. Davis. Th.

425. R. capillacea Torr. Capillary Beaked-rush. Bogs and sandy lake shores. Hubbardston; Flint; Macomb Co.; Petoskey; St. Clair Co.; Jackson Co., C. A. Davis. Infrequent. Th.

426. R. capillacea laeviseta Hill. C. K. Dodge. Shore Grand Traverse Bay, near Torch Lake, E. J. Hill; Saginaw and Tuscola Counties, C. A. Davis; Orion, O. A. Farwell.

427. R. cymosa Ell. Sturgis, F. P. Daniels.

428. R. fusca R. & S. Escanaba, E. J. Hill.

*429. R. glomerata (L.) Vahl. Clustered Beaked-rush. S. Mich., Wright Cat. Macomb Co.; Hubbardston; Pine Lake, Ingham Co.; St. Clair Co., C. K. Dodge; Keweenaw Co., O. A. Farwell; Vestaburg, C. A. Davis.

CLADIUM P. Browne.

*430. C. mariscoides Torr. Twig-rush. Bogs. S. Mich., Winch. Cat.; Macomb Co.; Flint; Hubbardston; Cheboygan Co., B. & K.; Tuscola and Washtenaw Counties, C. A. Davis. L. P.

SCLERIA Berg.

431. S. triglomerata Michx. Tall Nut-rush. S. Mich., Wright Cat., Macomb Co.; Flint; St. Clair Co., C. K. Dodge; Livingston Co. Rare. S.

432. S. verticillata Muhl. Low Nut-rush. S. Macomb Co., D. Cooley; St. Clair Co., C. K. Dodge; Orion, O. A. Farwell; Sebewaing, C. A. Davis. Rare.

CAREX L.

433. C. abacta Bailey. Yellowish Sedge. *C. Michauxiana* Boeckl. Keweenaw Co., O. A. Farwell; near Portage River. T. C. Porter.

434. C. adusta Boott. Browned Sedge. Crawford Co., Bailey; Grayling, G. H. Hicks. Rare.

*435. C. alata Torr. Broad-winged Sedge. *C. straminea alata* Bailey. Keweenaw Co., O. A. Farwell; Crystal Lake, Montcalm Co., Wheeler; South Haven; Niles, Dr. G. L. Ames, in University Herb.

436. C. albolutescens cumulata Bailey. Bay Co., G. M. Bradford.

*437. C. Albursina Sheldon. White Bear Sedge. *C. laxiflora latifolia* Boott. Fox-tail Sedge. Macomb Co.; Gray's Man.; Agricultural College grounds; Ypsilanti, O. A. Farwell. Frequent. S.

*438. C. alopecoidea Tuckerman. Fox-tail Sedge. Macomb Co.; Gray's Man.; Agricultural College grounds; Ypsilanti, O. A. Farwell.

439. C. alopecoidea sparsispicata Dewey. Flint, Clark; Macomb Co., Cooley; Detroit, O. A. Farwell.

440. C. alpina Swartz. Alpine Sedge. Isle Royale, Whitney Cat. U. P.

441. C. altocaulis (Dewey) Britton. Sheathed Sedge. *C. Saltuensis* Bailey. Keweenaw Co., O. A. Farwell; Oscoda Co., L. H. Bailey. N. & U. P.

*442. C. aquatilis Wahl. Water Sedge. Margins of streams. S. Mich., Wright Cat.; Flint; Macomb Co., Hubbardston; Sitting Rabbit, Winch. Cat.; Alma, Ann Arbor, C. A. Davis. Infrequent. Th.

443. C. aquatilis elatior Bab. Bay Co., G. M. Bradford. Belle Isle, O. A. Farwell.

444. C. arcta Boott. Northern Clustered Sedge. *C. canescens polystachya* Boott. Keweenaw Co., O. A. Farwell.

445. C. arctata Boott. Drooping Wood Sedge. Woods. S. Mich., Winch. Cat.; Petoskey; Hubbardston; Grand Ledge; Van Buren Co., Bailey. Th.

446. C. arctata Faxoni Bailey. Isle Royale, Dr. Sandberg; Keweenaw Co., O. A. Farwell.

447. C. arctata x castanea Bailey. Keweenaw Co., O. A. Farwell.

*448. C. aristata R. Br. Awned Sedge. *C. trichocarpa aristata* Bailey. Agricultural College grounds; northward to Lake Superior.

*449. C. Asa-Grayi Bailey. Gray's Sedge. *C. Grayi* Carey. Low grounds. Macomb Co.; Flint; Hubbardston; Lenawee Co., Detroit, O. A. Farwell. Rare.

*450. C. aurea Nutt. Golden-fruited Sedge. Borders of cool springs. S. E. Wright Cat.; Ann Arbor, Allmend. Cat.; Macomb Co.; Pine Lake, Ingham Co.; Hubbardston; Petoskey and northward; St. Clair Co., C. K. Dodge. Infrequent. Th.

451. C. Bicknellii Britton. Bicknell's Sedge. *C. straminea Crawei* Boott. Ann Arbor, Dr. D. Clark; Grass Lake, C. F. Wheeler.

*452. C. bromoides Schk. Brome-like Sedge. Low grounds. Common. Th.

453. C. brunnescens (Pers.) Poir. Brownish Sedge. *C. canescens alpicola* Wahl. Keweenaw Co., O. A. Farwell.

*454. C. brunnescens gracilior Britton. *C. canescens vulgaris* Bailey. Common.

*455. C. canescens L. Silvery Sedge. In swamps. Th.

456. C. capillaris L. Hair-like Sedge. Point de Tour, Lake Michigan, A. Gray; Sturgeon Point, Alcona Co.; Mackinaw, G. H. Hicks. Common in the Lake Superior region. N. & U. P.

*457. C. Careyana Torr. Cary's Sedge. Rich woods. Macomb Co.; Flint; Hubbardston; southward. Alma, C. A. Davis. Rare. S.

458. C Caroliniana Schwein. Carolina Sedge. Lapeer, Miss M. Owen.

459. C. castanea Wahl. Chestnut Sedge. Keweenaw Co., O. A. Farwell. Th.

*460. C. cephaloidea Dewey. Thin-leaved Sedge. Fields. Macomb Co., Cooley; Ann Arbor, Allmend. Cat.; St. Clair Co., C. K. Dodge; Alma, C. A. Davis; Detroit, O. A. Farwell. Rare. C. & S.

*461. C. cephalophora Muhl. Oval-headed Sedge. Open woods. Common. C. & S.

*462. C. chordorhiza L. f. Creeping Sedge. Th. Upland swamps. Macomb Co.; Hubbardston. Rare. Th.

*463. C. comosa Boott. Bay Co., G. M. Bradford; C. & S.

464. C. conjuncta Boott. Manistee, F. P. Daniels.

465. C conoidea Schk. Field Sedge. S. E. Wright Cat.; Flint; Manistee, F. P. Daniels; Ann Arbor, C. A. Davis. Infrequent. C. & S.

466. C. costellata Britton. Ribbed Sedge. Th. *C. virescens costata* Dew. S. Mich., Winch. Cat.; Detroit; Constantine, Dundee, Wheeler; So. Haven; Keweenaw Co., O. A. Farwell.

467. C. Crawei Dewey. Crawe's Sedge. Macomb Co., Cooley; Keweenaw Co., O. A. Farwell; St. Clair Co., C. K. Dodge; Tuscola Co., C. A. Davis; Bay Co., G. M. Bradford. Rare.

468. C Crawfordii Fernald. Keweenaw Co., O. A. Farwell.

*469. C. crinita Lam. Low grounds. Common. Th.

*470. C. cristatella Britton. Crested Sedge. Th. *C. tribuloides cristata* Bailey. Hubbardston, Wheeler. Rare.

*471. C. Crus-Corvi Shuttlew. Raven's-foot Sedge. Valley of River Raisin near Dundee; Reform school marsh, Lansing, C. F. Wheeler. The only localities known in the State.

*472. C. Davisii Schwein & Torr. Davis' Sedge. Keweenaw Co., Farwell. Rare.

*473. C. decomposita Muhl. Large-panicled Sedge. Hubbardston; Ann Arbor, Allmendinger Cat.; S. Mich., Wright Cat.; Lansing, Bailey. Very rare.

474. C. deflexa Hornem. Northern Sedge. Keweenaw Co., O. A. Farwell.

475. C. deflexa Deanei Bailey. Keweenaw Co., O. A. Farwell; Mackinaw, G. H. Hicks.

476. C. deflexa Farwellii Britton. *C. deflexa media* Bailey. Keweenaw Co., O. A. Farwell.

*477. C. Deweyana Schwein. Dewey's Sedge. Woods. Frequent. Th.

*478. C. digitalis Willd. Slender Wood Sedge. Macomb Co.; Flint; Hubbardston. Frequent. S.

*479. C. digitalis copulata Bailey. Hubbardston; southward.

480. C. durifolia Bailey. *C. Backii* Boott. Orion, Keweenaw Co., O. A. Farwell; Ontonagon River, Whitney Cat.; West Harrisville, Alcona Co. Rare.

482. C. exilis Dewey. Coast Sedge. Keweenaw Peninsula, O. A. Farwell. The only stations known in the State for this rare species.

*483. C. festucacea Willd. Fescue Sedge. *C. straminea brevior* Dewey. Common. Th.

*484. C. filiformis L. Slender Sedge. Bogs. Alma, Ann Arbor, C. A. Davis; S.

Mich., Wright Cat.; Hubbardston; Macomb Co.; Flint; common at Pine Lake, Ingham Co.; Keweenaw Co., O. A. Farwell; Towar's Swamp, Lansing.

486. C. flacca Shreb. *C. glauca* Scop. South shore of Belle Isle, O. A. Farwell.

487. C. flava L. Yellow Sedge. Sphagnous swamps. Frequent. Th.

488. C. flava graminis Bailey. Crawford Co., Bailey; Keweenaw Co., O. A. Farwell. Rare.

489. C. foenea Willd. Hay Sedge. Alger's Camp, Alcona Co.; Potts; Oscoda Co.; Crawford Co.; Isle Royale, Dr. J. H. Sandberg.

490. C. foenea perplexa Bailey. Port Huron, C. K. Dodge; Muskegon, Mrs. H. W. Fallars. Northward.

491. C. folliculata L. Long Sedge. S. Mich., Wright Cat.; So. Haven; Flint; Macomb Co., to L. Superior. Rare. Th.

*492. C. formosa Dewey. Handsome Sedge. Macomb Co.; St. Clair Co., C. K. Dodge; Bay Co., G. M. Bradford. Rare. Th.

*493. C. fusca All. Brown Sedge. Bogs. S. E., Winch. Cat.; Macomb Co.; Hubbardston; northward to L. Superior, Whitney Cat.; Alma, C. A. Davis. Irefrequent. Th.

*494. C. gracillima Schwein. Graceful Sedge. Wet meadows. Th.

*495. C. granularis Muhl. Meadow Sedge. Low grounds. Common. Th.

496. C. granularis Shriveri Britton. *C. Haleana* Olney. Frequent in low, clay ground, C. F. Wheeler.

*497. C. grisea Wahl. Gray Sedge. Moist woods. Variable. Th.

*498. C. gynandra Schwein. Nodding Sedge. *C. crinita gynandra* Schwein. Low grounds. Common. Th.

*499. C. Hartii Dewey. Hart-Wright's Sedge. *C. retrorsa Hartii* A. Gray. Hubbardston; Agricultural College Farm; Keweenaw Co., O. A. Farwell. Th.

500. C. Haydeni Dewey. Hayden's Sedge. *C. stricta decora* Bailey. Peche Isle and Belle Isle. C. F. Wheeler.

*501. C. Hitchcockiana Dewey. Hitchcock's Sedge. Woods. Flint; Hubbardston and southward. S.

502. C. Houghtonii Torr. Houghton's Sedge. North part of Clare Co.; Keweenaw Co.; Cheboygan Co.; Oscoda northward. N. & U. P.

*503. C. hystricina Muhl. Porcupine Sedge. Wet meadows. Common. Th.

504. C. hystricina Dudleyi Bailey. Owosso, G. H. Hicks; Manistee, F. P. Daniels; Bay Co., G. M. Bradford.

*505. C. interior Bailey. Keweenaw Co., Orion, Detroit, O. A. Farwell. Common. Th.

*506. C. intumescens Rudge. Bladder Sedge. Swamps. South Haven and northward. Common. Th.

507. C. intumescens Fernaldi Bailey. Detroit, O. A. Farwell.

*508. C. Jamesii Schwein. James' Sedge. Keweenaw Co., O. A. Farwell; Cassopolis; Dundee. Infrequent. Th.

*509. C. lanuginosa Michx. Woolly Sedge. *C. filiformis latifolia* Boeckl. Keweenaw Co. and Detroit, O. A. Farwell; Bay Co., G. M. Bradford; Flint; Macomb Co.; Hubbardston; Alma; Ann Arbor, C. A. Davis.

510. C. laxiculmis Schwein. Spreading Sedge. Washington, Macomb Co., Dr. Cooley; St. Clair Co., C. K. Dodge. Rare.

*511. C. laxflora Lam. Loose-flowered Sedge. Beech and maple woods. Exceedingly variable. Common. Th.

*512. C. laxiflora blanda (Dewey) Boott. *C. laxiflora striatula* Carey. Ypsilanti, Detroit, O. A. Farwell; Bay Co., G. M. Bradford.

513. C. laxiflora patulifolia (Dewey) Carey. Frequent in center and south.

*515. C. laxiflora varians Bailey. Keweenaw Co., O. A. Farwell; southward. Common. Th.

516. C. lenticularis Michx. Lenticular Sedge. "Upper Michigan," Gray; Laughing Fish R., L. Superior, Henry Gillman. U. P.

*517. C. leptalea Wahl. Bristle-stalked Sedge. *C. polytrichoides* Willd. Low grounds. Common. Th.

*518. C. limosa L. Mud Sedge. Bogs. Ann Arbor, Allmend. Cat.; Macomb Co.; Hubbardston and northward. Irefrequent. Th.

519. C. livida (Wahl) Willd. U. P. Lake Superior, Gray's Manual; St. Clair Co., C. K. Dodge. Rare.

*520. C. longirostris Torr. Long-beaked Sedge. Woods. Flint; Hubbardston and northward; St. Clair Co., C. K. Dodge. Rare.

*521. C. lupulina Muhl. Hop Sedge. Low grounds. Common. Th.

522. C. lupulina x lupuliformis C. A. Davis. New hybrid. Alma, C. A. Davis.

*523. C. lupulina pedunculata Dew. "With the species, but not common," L. H. Bailey in Gray's Manual, 6th ed. Frequent at Lansing.

*524. C. luplina x retrorsa Dudley. Lansing, Bailey; Alma, C. A. Davis.

*525. C lupuliformis Sartwell. Hop-like Sedge. Washington, Dr. D. Cooley; Lansing, C. F. Wheeler; Alma, C. A. Davis.

526. C. lurida Wahl. Sallow Sedge. Antrim Co.; S. Mich., Wright Cat.; So. Haven; Hubbardston; Keweenaw Co., O. A. Farwell. Th.

*527. C. lurida flaccida Bailey. Detroit, O. A. Farwell.

*528. C. lurida subglobosa Fernald. Near the Agricultural College. C. F. Wheeler.

*529. C. Magellanica Lam. Magellan Sedge. Sphagnous swamps. Local. Th.

*530. C. Meadii Dewey. Mead's Sedge. *C. tetanica Meadii* Bailey. Sphagnous swamps. Macomb Co.; Hubbardston; Constantine. Infrequent.

*532. C. monile Tuckerman. Necklace Sedge. Th. Mud Lake, Petoskey, E. J. Hill; Keweenaw Co., O. A. Farwell; Colon, Wheeler; Reform School marsh, Lansing; Alma, Ann Arbor, C. A. Davis. Th.

533. C. monile x utriculata, O. A. Farwell. Sphagnum swamps. Keweenaw Co., O. A. Farwell.

*534. C. Muhlenbergii Schk. Muhlenberg's Sedge. Fields. Hubbardston; Bay City; Macomb Co.; southward. Infrequent. C. & S.

*535. C. Muskingumensis Schwein. Muskingum Sedge. Hubbardston; Flint; near Owosso, G. H. Hicks; St. Clair Co., C. K. Dodge; Ann Arbor and Alma, C. A. Davis; Ypsilanti, Detroit, O. A. Farwell; Manistee, F. P. Daniels. C. & S.

536. C. oligocarpa Schk. Few-fruited Sedge. Flint; Macomb Co., Dr. D. Cooley; Cassopolis, Wheeler; Detroit, Dr. Lyons.

537. C. oligosperma Michx. Few-seeded Sedge. Borders of swamps and lakes. Hubbardston; Woodward Lake; Houghton Lake; Crawford Co.; Keweenaw Co., O. A. Farwell; Ann Arbor, C. A. Davis.

538. C. pallescens L. Pale Sedge. Dr. A. B. Lyons; Keweenaw Co., O. A. Farwell; Sault de Ste. Marie, Macoun.

*539. C. pauciflora Lightfoot. Few-flowered Sedge. U. P., Dr. A. B. Lyons; Chocolate R., L. Superior, Henry Gillman; Towar's swamp near Agricultural College; Alma, Ann Arbor, C. A. Davis.

*540. C. pedicellata (Dewey) Britton. Fibrous-rooted Sedge. Th. *C. communis* Bailey.

*541. C. pedicellata Wheeleri (Bailey) Britton. *C. communis Wheeleri* L. H. Bailey. Hubbardston; Grand Ledge; Alcona Co.; Mackinac, G. H. Hicks; Keweenaw Co., O. A. Farwell. Infrequent.

*542. C. pedunculata Muhl. Long-stalked Sedge. Hillsides. Alma, C. A. Davis; Bay Co., G. M. Bradford. Infrequent. Th.

*543. C. Pennsylvanica Lam. Pennsylvania Sedge. Dry woods. Our commonest Sedge. Th.

*544. C. plantaginea Lam. Plantain-leaved Sedge. Hillsides. Alma, C. A. Davis. Scarce. Th.

*545. C. platyphylla Carey. Broad-leaved Sedge. Grand Rapids, Coleman's Cat.; Hubbardston; St. Clair Co., C. K. Dodge. Infrequent. S.

546. C. prasina Wahl. Drooping Sedge. Wet meadows. Hubbardston; S. Mich., Winch. Cat.; Flint; Port Huron, C. K. Dodge; Alma, C. A. Davis. Rare. S.

547. C praticola Rydb. *C. pratensis* Drej. not Hose. Northern Meadow Sedge. Pic River. Lake Superior, C. Loring.

548. C. Pseudo-Cyperus L. Cyperus-like Sedge. Margins of streams. S. Mich., Wright Cat.; Macomb Co.; Hubbardston; Sturgis, F. N. Daniels; Alma, Ann Arbor, C. A. Davis; northward. Infrequent. Th.

*549. C. pubescens Muhl. Pubescent Sedge. S. Mich., Wright Cat.; Macomb Co.; Hubbardston to Lake Superior, Whitney Cat. Frequent. Th.

550. C. Redowskyana C. A. Myer. Redowsky's Sedge. *C. gynocrates* Wormskiold. N. E. and N. W., Winch. Cat.; Sturgeon Point, Alcona Co.; Mio, Oscoda Co.; Manistee, F. P. Daniels.

551. C. retroflexa Muhl. Reflexed Sedge. *C. rosea retroflexa* Torr. Frequent. S.

*552. C. retrorsa Schwein. Retrorse Sedge. River banks. Frequent. Th.

553. C. Richardsonii R. Br. Richardson's Sedge. Barrens. Ionia Co.; Macomb Co.; Gaylord, G. E. Hancorne; Orion, O. A. Farwell. Scarce.

555. C. riparia W. Curtis. River-bank Sedge. Wet places. Common. Th.

*556. C. rosea Schk. Stellate Sedge. Moist woods. Frequent. S.

*557. C. rosea radiata Dewey. Dry woods. Frequent. Th.

*558. C. Sartwellii Dewey. S. Mich., Winch. Cat.; Macomb Co.; Flint; Hubbardston; Orion, O. A. Farwell; and northward. Th.

*559. C. scabrata Schwein. Rough Sedge. Banks of streams. Flint; Grand Rapids, Coleman Cat.; Hubbardston to Lake Superior, Whitney Cat. Infrequent.

560. C. Schweinitzii Dew. Schweinitz's Sedge. Near Fraser's, Crawford Co., Prof. L. H. Bailey. Only station known in State.

561. C. scirpoidea Michx. Scirpus-like Sedge. Winch. Cat.; Drummond's Isle; Keweenaw Co., O. A. Farwell. N. E.

*562. C. scoparia Schk. Pointed Broom Sedge. Th. *C. scoparia minor* Boott. Keweenaw Co., O. A. Farwell; Bay Co., G. M. Bradford. Low grounds. Common.

563. C. setifolia (Dewey) Britton. Brittle-leaved Sedgw. Th. *C. Eburnea* Boott. Hillside. South Haven on sand dunes and northward. Infrequent.

*564. C. siccata Dewey. Dry-spiked Sedge. Barrens. Macomb Co.; Flint; Hubbardston; near Park Lake, Clinton Co.; northward to Lake Superior. Infrequent.

*565. C. sparganioides Muhl. Burr-reed Sedge. Low, rich grounds, St. Clair Co., C. K. Dodge. Infrequent. C. & S.

*566. C. squarrosa L. Squarrose Sedge. S. Mich., Wright Cat.; Hubbardston; Lansing, Bailey; Keweenaw Co., O. A. Farwell; Ann Arbor, C. A. Davis. Rare.

567. C. sterilis Willd. Little Prickly Sedge. *C. echinata microstachys* Boeckl. S. Mich., Winch. Cat.; Hubbardston; Flint; Macomb Co.; Orion and Keweenaw Co., O. A. Farwell; and northward. Common.

·568. C. sterilis cephalantha Bailey. *C. echinata cephalantha* Bailey. Keweenaw Co., O. A. Farwell; Manistee, F. P. Daniels.

*569. C. stipata Muhl. Awl-fruited Sedge. Low grounds. Common. Th.

*570. C. straminea Willd. Straw Sedge. Ann Arbor, Allmendinger Cat.; Macomb Co.; Flint; Hubbardston; South Haven; northward to Keweenaw Co., O. A. Farwell. Frequent. Th.

571. C. straminea ferruginea (A. Gray.) Bailey. Detroit, O. A. Farwell; Port Huron, Algonac, C. K. Dodge; Bay Co., G. M. Bradford.

*572. C. straminea mirabilis (Dewey) Tuck. *C. mirabilis* Dewey. Alma, Ann Arbor, C. A. Davis; Hubbardston and northward. Infrequent. Th.

*573. C. stricta Lam. Tussock Sedge. Low grounds. Common. Th.

574. C. stricta angustata (Boot) Bailey. Less common than the species. Ann Arbor, C. A. Davis; Hubbardston, Wheeler; Keweenaw Co., O. A. Farwell.

575. C stricta x filiformis Bailey. Keweenaw Co., O. A. Farwell.

576. C. sychnocephala Carey. Dense Long-beaked Sedge. Crystal, Montcalm Co. Only station known in the State, C. F. Wheeler. S.

*577. C. tenella Schk. Soft-leaved Sedge. Sphagnous swamps. Common.

*578. C. tenuiflora Wahl. Sparse-flowered Sedge. U. P., Whitney Cat.; Oscoda Co.; Towar's swamp, near Lansing, Wheeler, 1890; Keweenaw Co., O. A. Farwell. Th.

579. C. tenuis Rudge. Slender-stalked Sedge. *C. debilis Rudgei* Bailey. Bear Lake, Van Buren Co., E. J. Hill; shores of Barron Lake, Cass Co.; Gaylord; Alcona Co.

580. C. tenuis interjecta (Bailey) Britton. *C. debilis interjecta* Bailey. Grayling, W. J. B.

*581. C. teretiuscula Good. Lesser-panicled Sedge. Swamps. Common. Th.

*582. C teretiuscula prairea (Dewey) Britton. *C. teretiuscula ramosa* Boott. Orion, O. A. Farwell. Frequent.

*583. C. tetanica Schkuhr. Woods Sedge. S. Mich., Winch. Cat.; Grand Ledge, C. F. Wheeler; near Pine Lake, Ingham Co., L. H. Bailey; Macomb Co.; Flint, and northward.

*584. C. tetanica Woodii Bailey. Central part of the State. Infrequent.

*585. C. tribuloides Wahl. Blunt-broom Sedge. Th.

*586. C. tribuloides Bebbii Bailey. Bay Co., G. M. Bradford; Detroit, O. A. Farwell. Th.

587. C. tribuloides moniliformis (Tuck.) Britton. *C. tribuloides reducta* Bailey. Keweenaw Co., O. A. Farwell; Manistee, F. P. Daniels; Alma, C. A. Davis; Bay Co., G. M. Bradford.

588. C. tribuloides turbata Bailey. Swales. Keweenaw, O. A. Farwell. Frequent.

589. C. triceps hirsuta Bailey. In an oak wood on the farm of Hon. N. B. Hayes, in North Plains township, Ionia Co. Not known to occur elsewhere in the State.

*590. C. trichocarpa Muhl. Hairy-fruited Sedge. S. Mich., Wright Cat.; Macomb Co. Infrequent. C. & S.

*591. C. trisperma Dewey. Keweenaw Co., O. A. Farwell; Bay Co., G. M. Bradford.

*592. C. Tuckermani Dewey. Tuckerman's Sedge. Swamps. S. Mich., Wright Cat.;

Hubbardston; Flint; Macomb Co., and northward; Alma, Ann Arbor, C. A. Davis. Frequent.

*593. **C. umbellata** Schk. Umbel-like Sedge. Grand Ledge, C. F. Wheeler; Keweenaw Co., O. A. Farwell; Manistee, F. P. Daniels. Rare.

594. **C. umbellata vicina** Dewey. Alcona Co.; Keweenaw Co., O. A. Farwell; Grand Ledge, C. F. Wheeler; St. Clair Co., C. K. Dodge.

*595. **C. utriculata** Boott. Bottle Sedge. Swamps. Common. Th.

576. **C. varia** Muhl. Emmons' Sedge. Barron Lake; New Buffalo; Monroe Co.; dunes of South Haven, L. H. Bailey; Oscoda Co.; Crawford Co.; Grand Traverse, Winch. Cat.; Keweenaw Co., O. A. Farwell.

597. **C. virescens** Muhl. Dewey. Green Sedge. Detroit, O. A. Farwell; Wayne, C. A. Davis.

598. **C. viridula** Michx. Green Sedge. *C. flava viridula* Bailey. Margins of lakes. Frequent. Th.

*599. **C. vulpinoidea** Michx. Fox Sedge. Low meadows. Common. Th.

600. **C. Willdenovii** Schk. Willdenow's Sedge. Bear Lake, Van Buren Co., E. J. Hill. Rare.

ARACEÆ Neck. Arum Family.

ARISAEMA Mart.

*601. **A. Dracontium** (L.) Schott. Green Dragon. Dragon-root. C. & S.

*602. **A. triphyllum** (L.) Torr. Indian Turnip. Rich woods. Th.

PELTANDRA Raf.

*603. **P. Virginica** (L.) Kunth. Green Arrow-arum. *P. undulata* Raf. S. Mich., Wright Cat.; Huron River, Allmendinger Cat.; Ionia Co.; Bay Co., G. M. Bradford; Flint. C. & S.

CALLA L.

*604. **C. palustris** L. Water Arum. Bogs. Frequent. Th.

SPATHYEMA Raf. SYMPLOCARPUS Salisb.

*605. **S. foetida** (L.) Raf. Skunk Cabbage. *Symplocarpus foetidus* Nutt. Th.

ACORUS L.

*606. **A. Calamus** L. Margin of streams. Infrequent. Th.

LEMNACEÆ Dumort. Duckweed Family.

SPIRODELA Schleid.

*607. **S. polyrhiza** (L.) Schleid. Greater Duckweed. Ponds. Common.

LEMNA L. Duckweed. Duck's-meat.

*608. **L. minor** L. Lesser Duckweed. Th. Ponds Blossoms occasionally in June. Common.

609. **L. perpusilla** Torr. Minute Duckweed. Detroit River, D. H. Campbell; Dr. A. B. Lyons. Rare. C. & S.

*610. **L. trisulca** L. Ivy-leaved Duckweed. Ponds. Frequent. C. & S.

WOLFFIA Horkel.

611. **W. Columbiana** Karst. Columbia Wolffia. Abundant on Maple River, Clinton Co.; Ionia Co.; Detroit, J. M. Bigelow.

612. **W. punctata** Griseb. Brazil Wolffia. *W. Brasiliensis* Engelm., not Wedd. Abundant on Maple River, Clinton Co.; Ionia Co.; Detroit, J. M. Bigelow; Bay Co., G. M. Bradford.

XYRIDACEÆ Lindl. Yellow-eyed Grass Family.

XYRIS L.

613. **X. flexuosa** Muhl. Macomb Co.; S. W., Wright Cat.; Hubbardston, Wheeler; Manistee, F. P. Daniels; Vestaburg, C. A. Davis; S. W., H. S. Pepoon. Rare.

614. **X montana** H. Ries. Yellow-eyed Grass. *X. flexuosa pusilla* A. Gray. Lake Superior, Gray's Manual, 6th edition.

ERIOCAULACEÆ Lindl. Pipewort Family.

ERIOCAULON L.

615. **E. septangulare** With. Margin of Long Lake, Cheboygan Co., B. & K.; S. W., Wright Cat.; Macomb Co.; Cooley; Escanaba, E. J. Hill; Alma, C. A. Davis. Infrequent. L. P.

COMMELINACEÆ Reichenb. Spiderwort Family.

COMMELINA L.

616. **C. Virginica** L. Virginia Day-flower. S. W. Wright Cat.

TRADESCANTIA L. Spiderwort.

617. **T. reflexa** Raf. Grass Lake, Cassopolis, Muskegon, C. F. Wheeler; Algonac Co., W. S. Cooper.

618. **T. Virginica** L. Common Spiderwort. Moist wooks. Ionia Co.; Grand Rapids; Ann Arbor, Allmendinger Cat.; Hillsdale Co. Frequent. C. & S.

PONTEDERIACEÆ Dumort. Pickerel-weed Family.

PONTEDERIA L.

*619. **P. cordata** L. Pickerel-weed. Borders of lakes and slow streams. Lakes in Oakland Co.; Ann Arbor; Ionia Co., and northward. Th.

*620. **P. cordata lancifolia** (Muhl.) Morong. *P. cordata angustifolia* Torr. Lake St. Clair; Pine Lake, Ingham Co.

HETERANTHERA R. & P.

*621. **H. dubia** (Jacq.) MacM. Water Star-grass. *H. graminea* Vahl. Ann Arbor, Allmend. Cat.; Dexter, Dr. Elmore Palmer; Grand Rapids; Bay Co.; Hubbardston; Alma, C. A. Davis. In streams. Common. C. & S.

JUNCACEÆ Vent. Rush Family.

JUNCUS L.

*622. **J. acuminatus** Michx. Short-fruited Rush. Macomb Co.; Fruitport, E. J. Hill; Hubbardston; Keweenaw Co., O. A. Farwell; St. Clair Co., C. K. Dodge; Alma, C. A. Davis.

623. **J. articulatus** L. Pointed Rush. Alger, C. F. Wheeler; Tuscola County, C. A. Davis. Th.

624. **J. Balticus littoralis** Engelm. Sandy shores. S. Haven, Bailey; to Petoskey; Port Huron; Bay Co., G. M. Bradford. Oscodo and northward. A form of this species is found at Hubbardston, Ionia Co., Wheeler; Port Austin, C. A. Davis. Th.

625. **J. brachycarpus** Engelm. Short-fruited Rush. St. Clair Co., C. K. Dodge.

*626. **J. brachycephalus** (Engelm.) Buch. Small-headed Rush. *J. Canadensis brachycephalus* Engelm. Hubbardston; Howell Junction, C. F. Wheeler; Bay Co., G. M. Bradford. S.

*627. J. bufonius L. Toad Rush. Roadsides. Common. Th.

*628. J. Canadensis J. Gay. Canada Rush. Fruitport, E. J. Hill; Macomb Co.; Hubbardston; northward to Sault Ste. Marie, Burgess; Alma, C .A. Davis. Common. Th.

629. J. Canadensis brevicaudatus Engelm. *J. Canadensis coarctatus* Engelm. Detroit; north shore of Lake Superior, Dr. Lyons; Keweenaw Co., O. A. Farwell.

*631. J. conglomeratus L. Glomerate Rush. *J. effusus conglomeratus* Engelm. Swamps; not so common as the species.

632. J. Dudleyi Wieg. Keweenaw Co., Detroit, O. A. Farwell.

*633. J. effusus L. Common or Soft Rush. Marshy grounds. Common. Th.

634. J. filiformis L. Thread Rush. Adrian, Tuthill; Saginaw Bay, Winch. Cat.; L. Superior, Jno. Macoun. Rare.

635. J. Gerardi Loisel. Black-grass. "Rare about the Great Lakes." Gray's Manual.

636. J. Greenii Oakes & Tuck. Green's Rush. Head of Lake Michigan, Gray's Manual, 6th edition; Detroit, Wheeler; Keweenaw Co., O. A. Farwell; St. Clair Co., C. K. Dodge. Rare.

637. J. interior Wieg. *J. tenuis secundus* Engelm. Palmer Park, Detroit, C. F. Wheeler; Twin Lake, Muskegon Co., C. F. Wheeler.

638. J. marginatus Rostk. Grass-leaved Rush. S. Mich., Winch. Cat.; Macomb Co., Dr. D. Cooley; Grand Rapids, Wheeler; Livingston Co., C. A. Davis. Rare. S.

*639. J. nodosus L. Knotted Rush. Gravelly banks. Common. An intermediate form grows with the species on the shore of Litle Traverse Bay, Wheeler.

*640. J. pelocarpus E. Meyer. Brownish-fruited Rush. Th. Shore of Woodward Lake, Ionia Co.; Pine Lake, Ingham Co.; Lake Superior; J. Macoun, Can. Cat.; Bear Lake, Manistee Co., E. J. Hill; Macomb Co., Dr. D. Cooley; Vestaburg, C. A. Davis. Infrequent.

*641. J. Richardsonianus Schult. Richardson's Rush. *J. alpinus insignis* Fries. "Along the Great Lakes northward and westward," Gray. Common. Along railroad track on Agricultural College Farm. This species has been mistaken by early collectors for J. articulatus, which is confined to the New England States. Engelmann. Th.

642. J. scirpoides Lam. Scirpus-like Rush. Sturgis, F. P. Daniels.

644. J. stygius L. Moor Rush. "N. shore of Lake Superior, Mr. Wheeler," Gray's Manual, 5th edition; Marquette, E. J. Hill.

*645. J. tenuis Willd. Slender Rush. Roadside. Common. Th.

646. J. Torreyi Coville. Torrey's Rush. *J. nodosus megacephalus* Torr. Flint; Hubbardston and southward; St. Clair Co., C. K. Dodge; Bay Co., G. M. Bradford.

647. J. Vaseyi Engelm. Vasey's Rush. Detroit, Lyons; Lake Superior, John Macoun.

JUNCOIDES Adans. LUZULA DC.

*648. J. campestre (L.) Kuntze. Common Wood-rush. *Luzula campestris* DC.

*649. J. pilosum (L.) Kuntze. Hairy Wood-rush. Bay Co., G. M. Bradford. Common. Th.

650. J. spicatum (L.) Kuntze. Spiked Wood-rush. *Luzula spicata* DC. Dr. A. B. Lyons. U. P. Woods. Common. Th.

MELANTHACEÆ R. Br. Bunch-flower Family.

TOFIELDIA Hudson.

*651. T. glutinosa (Michx.) Pursh. Glutinous Tofieldia. Sphagnous swamps. Frequent. Th.

652. T. palustris Hudson. Scottish Asphodel. Isle Royale, Dr. A. B. Lyons. U. P.

CHAMAELIRIUM Willd.

653. C. luteum (L.) A. Gray. Blazing Star. *C. Carolinianum* Willd. Dr. A. B. Lyons. U. P.

ZYGADENUS Michx.

*654. Z. elegans Pursh. Th. S. W., Wright Cat.; Dexter, Dr. Elmore Palmer; Ann Arbor, Allmend. Cat.; Grand Ledge; Clarkston, G. H. Hicks; Ionia; Davisburg; Petoskey; Ann Arbor, C. A. Davis; Detroit, O. A. Farwell. Rare.

UVULARIA L.

*655. **U. grandiflora** J. E. Smith. Large-flowered Bellwort. Rich woods. Common. C. & S.

656. **U. perfoliata** L. Perfoliata Bellwort. Rich woods. Marquette Co., Burt MS. Cat.; Flint; Macomb Co. Infrequent.

657. **U. sessilifolia** L. Sessile-leave Bellwort. *Oakesia sessilifolia* S. Wats. Low woods. Monroe Co., Wheeler; Ann Arbor, Allmend. Cat.; Ypsilanti; Flint; Macomb Co.; Crystal Lake, Montcalm Co., E. F. Smith, and northward to Marquette Co., Whitney Cat. Th.

LILIACEÆ Adans. Lily Family.

HEMEROCALLIS L.

*658. **H. fulva** L. Common Day-lily. Escaped from cultivation.

ALLIUM L.

*659. **A. Canadense** Kalm. Wild Garlic. Woods. Common. C. & S.

660. **A. cernuum** Roth. Wild Onion. Ann Arbor, Allmend. Cat. S.

661. **A. Sibiricum** L. *A. Schoenoprasum* Ill. Fl., not L. Chives. Dr. A. B. Lyons; Gray's Manual; N. shore of Lake Superior, Agassiz; Keweenaw Point, O. A .Farwell. U. P.

*662. **A. tricoccum** Ait. Wild Leek. Rich woods. Th.

*663. **A. vineale** L. Field Garlic. In the aboretum of the Agricultural College.

LILIUM L.

664. **L. Canadense** L. Wild Yellow Lily. Meadows and along streams. Northward, frequent.

*665. **L. Philadelphicum** L. Wild Orange-red Lily. Ann Arbor, Allmend. Cat.; Hubbardston; Petoskey; and northward. Not common in the central part of the State. There is some doubt about the presence of this plant in Mich.

*666. **L. superbum** L. Turk's-cap Lily. Low grounds. Ann Arbor (Miss Clark), Winch. Cat.; Flint; S. Haven, Bailey; Alma, C. A. Davis. Frequent. C. & S.

667. **L. umbellatum** Pursh. Western Red Lily. Alpena, Traverse City, C. F. Wheeler; St. Clair Co., C. K. Dodge; Bay Co., G. M. Bradford; Keweenaw Co., O. A. Farwell; Birmingham, S. Alexander.

ERYTHRONIUM L.

*668. **E. albidum** Nutt. White Adder's-tongue Violet. Th. Ann Arbor, Allmend. Cat.; Macomb Co.; Flint; Hubbardston. "At L. Superior Dr. Robbins found a plant like this but yellow flowered, a transition toward E. grandiflorum," Gray's Man.; Keweenaw Co., O. A. Farwell.

670. **E. Americanum** Ker. Yellow Adder's-tongue. Low copses. Common. Th.

QUAMASIA Raf. CAMASSIA Lindl.

670. **Q. hyacinthina** (Raf.) Britton. Wild Hyacinth. *Camassia Fraseri* Torr. Adrian, Mrs. I. H. Wheeler; White Island in the Detroit river opposite Amherstburg, Dr. J. Macoun.

MUSCARI Mill.

MUSCARIA.

670a. **M. botryoides** (L.) Mill. *Grape Hyacinth.* Moist grass lands. Ann Arbor, C. A. Davis.

ALETRIS L.

671. **A. farinosa** L. Colic-root Star-grass. Addison, G. F. Comstock; Howard City; Grand Rapids; Ann Arbor, Allmend. Cat.; Macomb Co.; Flint; Clarkston, G. H. Hicks; Hubbardston; Manistee, F. P. Daniels; Ann Arbor, C. A. Davis. Rare. C. & S.

CONVALLARIACEÆ Link. Lily-of-the-Valley Family.

ASPARAGUS L.

*672. **A. officinalis** L. Garden Asparagus. Sparingly escaped from gardens in older parts of the State.

CLINTONIA Raf.

673. **C. borealis** (Ait.) Raf. Yellow Clintonia. Follows the Lake Michigan shore down as far as S. Haven; on the eastern side of the State reaches to Macomb Co., Dr. D. Cooley; and in the center of the State is found in Ionia Co.; Alma, C. A. Davis. Very common north of latitude 43°.

VAGNERA Adans. Smilacina Desf.

*674. **V. racemosa** (L.) Morong. Wild Spikenard. *Smilacina racemosa* Desf. Moist grounds. Common. Th.

*675. **V. stellata** (L.) Morong. Star-flowered Solomon's Seal. *Smilacina stellata* Desf. Moist banks. Common. Th.

*676. **V. trifolia** (L.) Morong. Three-leaved Solomon's Seal. *Smilacina trifolia* Desf. Sphagnous swamps. Frequent. Th.

UNIFOLIUM Adans. Maianthemum Wigg.

*677. **U. Canadense** (Desf.) Greene. False Lily-of-the-valley. *Maianthemum Canadense* Desf. Woods, everywhere.

STREPTOPUS Michx.

678. **S. amplexifolius** (L.) DC. Twisted Stalk. Fort Gratiot, Winch. Cat.; Houghton Lake to Lake Superior, where it is rare, Whitney Cat.

679. **S. roseus** Michx. Sessile-leaved Twisted-stalk. Cedar swamps. Mt. Pleasant, Alma, Chas. A. Davis; Cheboygan Co., B. & K.; Bay Co., G. M. Bradford; Drummond's Is., and Sugar Is., Winch. Cat.; to L. Superior where it is very common, Whitney Cat.

SALOMONIA Heist. Polygonatum Adans.

*680. **S. biflora** (Walt.) Britt. Smaller Solomon's Seal. *P. biflorum* Ell. Ann Arbor, Winch. Cat.; Ionia Co., and northward. Open woods. Common. Th.

*681. **S. commutata** (R. & S.) Britt. Smooth Solomon's Seal. Th. *P. giganteum* Dietrich. Great S. S. River banks. Stems often very tall and channeled on one side. Intermediate forms between this and the preceding occur. Ann Arbor, C. A. Davis.

MEDEOLA L.

*682. **M. Virginiana** L. Indian Cucumber-root. L. P. Abundant at Gaylord, where it probably reaches its N. limits, G. L. Stewart; Alma and Wayne, C. A. Davis; S. W., H. S. Pepoon.

TRILLIUM L. Wake Robin. Birthroot.

*683. **T. cernuum** L. Nodding Wake-robin. S. Mich., Winch. Cat.; Macomb Co.; Flint; Grand Rapids, Coleman Cat.; northward to Keweenaw, O. A. Farwell; Alma and Ann Arbor, C. A. Davis. Infrequent.

*684. **T. erectum** L. Ill-scented Wake-robin. Ann Arbor, Winch. Cat.; Constantine; Port Huron, Dodge. The white form with declinate pedicels is most common throughout, and the only form in the northern part of the State. Th.

*685. **T. grandiflorum** (Michx.) Salisb. Large-flowered Wake-robin. Rich woods. Exceedingly variable and apt to sport. Common. Th.

686. **T. nivale** Riddell. Dwarf White Trillium. Low woods. One of our earliest spring flowers. Hubbardston; Ionia; Grand Rapids, Coleman Cat., Niles, I. N. Mitchell. Rare. C. & S.

687. **T. recurvatum** Beck. Prairie Wake-robin. Niles, I. N. Mitchell. S. W.

688. **T. sessile** L. Sessile-flowered Wake-robin. Dr. A. B. Lyons; St. Joseph, Wheeler; Niles, I. N. Mitchell. Rare. S.

689. **T. undulatum** Willd. Painted T. *T. erythrocarpum* Michx. S. Mich., Wright Cat.; not observed in the center of the State; Port Huron, Dodge; Keweenaw Co., O. A. Farwell. Infrequent. Th.

SMILACEÆ Vent. Smilax Family.

SMILAX L.

*690. **S. ecirrhata** (Engelm.) S. Wats. Upright Smilax. St. Clair, C. K. Dodge; Belle Isle, O. A. Farwell; Sturgis, F. P. Daniels; Alma, Ann Arbor, C. A. Davis.

*691. **S. herbacea** L. Carrion-flower. River banks. Flowers much visited by blow-flies. Common. Th.

*692. **S. herbacea pulverulenta** (A. Gray.) Michx. Ann Arbor, Allmend. Cat.; Owosso, G. H. Hicks; Alma, C. A. Davis.

*693. **S. hispida** Muhl. Hispid Greenbrier. The common woody species in Ionia and adjacent counties. Ann Arbor, Winch. Cat.; Hubbardston; Flint; Houghton Lake; Alma, Ann Arbor, C. A. Davis; northward to Lake Superior, Whitney Cat.

694. **S. rotundifolia** L. Common Greenbrier. Horse-brier. Ann Arbor, Allmend. Cat.; Flint; Macomb Co.; Kent Co., Coleman Cat.; Benton Harbor. Infrequent. C. & S.

AMARYLLIDACEÆ Lindl. Amaryllis Family.

HYPOXIS L. Star-grass.

695. **H. hirsuta** (L.) Coville. Star-grass. Tuscola county, Ann Arbor, C. A. Davis. *H. erecta* L. Meadows. Common.

DIOSCOREACEÆ Lindl. Yam Family.

DIOSCOREA L.

*696. **D. villosa** L. Wild Yam-root. Rich woods. Frequent. C. & S.

IRIDACEÆ Lindl. Iris Family.

IRIS L.

697. **I. lacustris** Nutt. Dwarf Lake Iris. Bois Blanc I. and Drummond's I., Winch. Cat.; Mackinac, Whitney Cat.; "Shores of L. Huron and Mich.," A. Gray, Lewis Foote; Mackinaw City, Wheeler; Alpena, C. A. Davis.

*698. **I. versicolor** L. Larger Blue Flag. Low grounds. Common. Th.

SISYRINCHIUM L.

*699. **S. albidum** Raf. White Blue-eyed Grass. Barron Lake, C. F. Wheeler; Belle Isle, O. A. Farwell; Kalamazoo, R. M. Gibbs.

*700. **S. angustifolia** Miller. Northern Blue-eyed Grass. Moist grassy places. Common. Th.

701. **S. apiculatum** Bicknell. Muskegon Co., C. D. McLouth.

702. **S. Farwellii** Bicknell. Near Birmingham, Oakland Co., O. A. Farwell.

*703. **S. graminoides** Bicknell. Belle Isle and elsewhere, O. A. Farwell; *S. anceps* S. Wats. Palo. Petoskey, C. F. Wheeler.

704. **S. hastile** Bicknell. Belle Isle, O. A. Farwell.

705. **S. mucronatum** Michx. Michaux's Blue-eyed Grass. Southeast Michigan, O. A. Farwell.

706. **S. strictum** Bicknell. Montcalm Co., Britton's Manual.

ORCHIDACEÆ Lindl. Orchis Family.

CYPRIPEDIUM L.

*707. **C. acaule** Ait. Stemless Ladies' Slipper. Dry woods and sphagnous swamps. Frequent. Th.

708. **C. arietinum** R. Brown. Ram's-head Ladies' Slipper. Isle Royale, Dr. A. B. Lyons; tamarack swamp one-half mile east of Whitmore Lake, W. H. Lewis; Mt. Pleasant, C. A. Davis. Rare.

709. **C. candidum** Willd. Small White Ladies' Slipper. Tamarack swamps. Ann Arbor, Winch. Cat.; Kalamazoo; Macomb Co.; Flint; Hubbardston; Howell Junction, C. F. Wheeler; Keweenaw Co., O. A. Farwell. Rare.

*710. **C. hirsutum** Mill. Large Yellow Ladies' Slipper. *C. pubescens* Willd. Woods, in moist or dry ground. Frequent.

*711. **C. parviflorum** Salib. Smaller Yellow Ladies' Slipper. Very wet swamps. Frequent. Th.

*712. **C. reginae** Walt. Showy Ladies' Slipper. *C. spectabile* Salisb. Swamps. Ann Arbor, Winch. Cat.; Kalamazoo, Tuthill; Macomb Co.; Flint; Hubbardston; Keweenaw Co.; Alma, C. A. Davis. Frequent. Th.

ORCHIS L.

713. **O. rotundifolia** Pursh. Small Round-leaved Orchis. Frankfort, E. J. Parker; Marquette, T. H. Danger; Lake Fumeé, E. J. Hill.

GALEORCHIS Rydb. Orchis L., in part.

*714. **G. spectabilis** (L.) Rydb. Showy Orchis. *Orchis spectabilis* L. Rich woods. Scarce. C. & S.

PERULARIA Lindl. Habenaria Willd., in part.

715. **P. flava** (L.) O. A. Farwell. Tubercled Orchis. *Habenaria flava* (L.) A. Gray. Macomb Co.; Ann Arbor, Winch. Cat.; S. W. Wright Cat.; Cheboygan Co., B. & K.; Bay Co., G. M. Bradford; Alma, C. A. Davis. Infrequent. Th.

COELOGLOSSUM Hartman. Habenaria Willd., in part.

*716. **C. bracteatum** (Willd.) Parl. Long-bracted Orchis. *Habenaria bracteata* (Willd.) R. Br. Ann Arbor and Emmet Co., Winch. Cat.; Macomb Co.; Kalamazoo; Hubbardston; Flint; Alma, and northward. Th.

GYMNANDENIOPSIS Rydb. Habenaria Willd., in part.

717. **G. clavellata** (Michx.) Rydb. Small Green Wood Orchis. *Habenaria clavellata* (Michx.) Spreng. Lenawee Co., G. F. Comstock; S. W., Wright Cat.; Ann Arbor, Allmend. Cat.; Hubbardston, Grayling, G. H. Hicks; Alma, C. A. Davis; and northward.

LIMNORCHIS Rydb. Habenaria Willd., in part.

*718. **L. dilatata** (Pursh.) Rydb. Tall White Bog Orchis. *Habenaria dilatata* (Pursh.) Hook. S. E. Winch. Cat.; Constantine and northward. Th.

719. **L. hyperborea** (L.) Rydb. Tall Leafy Green Orchis. *Habenaria hyperborea* (L.) R. Br. Wet woods. Frequent northward. Th.

LYSIAS Salisb. Habenaria Willd., in part.

*720. **L. Hookeriana** (A. Gray) Rydb. Hooker's Orchis. *Habenaria Hookeriana* A. Gray. S. E. Winch. Cat.; Hubbardston; Flint; Lake Superior, Whitney Cat.; Alma, C. A. Davis. Rare southward. Th.

*721. **L. orbiculata** (Pursh.) Rydb. Large Round-leaved Orchis. *Habenaria orbiculata* (Pursh.) Torr. Frequent in the pine region, not rare on U. P., Whitney, Cat.; Hubbardston; Alma; Flint. Th.

LYSIELLA Rydb. HABENARIA Willd., in part.

722. **L. obtusata** (Pursh.) Rydb. Small Northern Bog Orchis. *Habenaria obtusata* (Pursh.) Richards. Cheboygan Co., B. & K.; Pictured Rocks, G. H. Hicks; Isle Royale, Dr. A. B. Lyons; L. Superior, common, Whitney Cat.; Cove I.; L. Huron, Austin. N. & U. P.

BLEPHARIGLOTTIS Raf. HABENARIA Willd., in part.

723. **B. blephariglottis** (Willd.) O. A. Farwell. White-fringed Orchis. *Habenaria blephariglottis* (Willd.) Torr. S. Mich., Winch. Cat.; Stanton. Rare. C. & S.

*724. **B. ciliaris** (L.) Rydb. Yellow-fringed Orchis. *Habenaria ciliaris* (L.) R. Br. Ann Arbor, Winch. Cat.; Macomb Co.; Kalamazoo, Tuthill; Niles, I. N. Mitchell; Algonac, W. S. Cooper; Ann Arbor, C. A. Davis. Rare.

725. **B. ciliaris x blephariglottis.** Bay Co., G. M. Bradford.

*726. **B. lacera** (Michx.) Rydb. Ragged Orchis. *Habenaria lacera* (Michx.) R. Br. Ann Arbor, Winch. Cat.; Woodward Lake; Flint; Macomb Co.; Manistee, F. P. Daniels; north to Keweenaw Co., O. A. Farwell. Infrequent. Th.

*727. **B. leucophaea** (Nutt.) O. A. Farwell. Prairie White-fringed Orchis. *Habenaria leucophaea* (Nutt.) A. Gray. Belle Isle, Foerste; Ann Arbor, Winch. Cat.; Pine Lake, Ingham Co.; Woodward Lake, Ionia Co.; Macomb Co.; Alma, C. A. Davis; Isle Royale, Foote; St. Clair Co., C. K. Dodge. Rare.

*728. **B. psycodes** (L.) Rydb. Smaller Purple-fringed Orchis. *Habenaria psycodes* (L.) A. Gray. Low grounds. Frequent. Th.

POGONIA Juss.

*729. **P. ophioglossoides** (L.) Ker. Snake-mouth. Bogs. Common. Th.

ISOTRIA Raf. POGONIA Juss., in part.

730. **I. verticillata** (Willd.) Raf. *Pogonia verticillata* (Willd.) Nutt. Alma, C. A. Davis; Kalamazoo; Flint; Macomb Co. Rare.

TRIPHORA Nutt. POGONIA Juss., in part.

731. **T. trianthophora** (Sw.) Rydb. Nodding Pogonia. *pogonia pendula* Lindl. Dr. Wright; Calvin, Cass Co., I. N. Mitchell; Alma, C. A. Davis. Rare. S. W.

ARETHUSA Gronov.

*732. **A. bulbosa** L. Arethusa. In sphagnous swamps. S. Mich., Wright Cat.; Ann Arbor, Allmend. Cat.; Kalamazoo, Tuthill; Alma, C. A. Davis; Hubbardston, and northward. Rare. Th.

LIMODORUM L. CALOPOGON R. Br.

*733. **L. tuberosum** L. Grass-pink Colopogon. *Calopogon pulchellus* R. Br. Bogs. Alma, Ann Arbor, C. A. Davis. Common. Th.

GYROSTACHYS Pers. SPIRANTHES L. C. Richard.

*734. **G. cernua** (L.) Kuntze. Nodding Ladies' Tresses. *Spiranthes cernua* Richard. Sphagnous swamps. Frequent. Th.

735. **G. gracilis** (Bigel.) Kuntze. Slender Ladies' Tresses. *Spiranthes gracilis* Bigelow. S. W., Wright's Cat.; Macomb Co.; Grand Rapids, Coleman Cat.; Kalamazoo, Tuthill; Long Lake and Pine Plains, Cheboygan Co., B. & K. L. P.

736. **G. plantaginea** (Raf.) Britt. Wide-leaved Ladies' Tresses. *Spiranthes latifolia* Torr. Drummond's Island, common, and S. E., Winch. Cat.; Hubbardston; Flint; Roscommon. Rare in L. P.

737. **G. stricta** Rydb. Hooded Ladies' Tresses. Not *G. Romanzoffiana* as has been supposed. *Spiranthes Romanzoffiana* Chamisso. Borders of Mud Lake, Northport, E. J. Hill; St. Clair Co., A. F. Foerste; Grayling, G. H. Hicks; Tuscola Co., C. A. Davis; Caribou Islet, Porter; northward to L. Superior. Infrequent southward. Th.

LISTERA R. Br.

738. **L. convallarioides** (Sw.) Torr. Round-lipped Twayblade. Not common. Whitney Cat.; Isle Royale, Dr. A. B. Lyons; abundant at Pictured Rocks, G. H. Hicks; Grand

Traverse Co.; Cheboygan Co., B & K.; Keweenaw Co., O. A. Farwell. N. & U. P.

739. **L. cordata** (L.) R. Br. Twayblade. Whitney Cat.; Isle Royale, Dr. A. B. Lyons; Grayling, G. H. Hicks; Keweenaw Co., O. A. Farwell; cedar swamps, Cheboygan Co., B. & K. N. & U. P.

PERAMIUM Salisb. Goodyera R. Br.

740. **P. Menziesii** (Lindl.) Morong. Menzies' Rattlesnake Plantain. *Goodyera Menziesii* Lindl. Grayling, G. H. Hicks; Boyne Falls, Northport and Frankfort, E. J. Hill; Petoskey; Isle Royale and Traverse Bay, Dr. A. B. Lyons; Keweenaw Co., O. A. Farwell. Rare in Cheboygan Co., B. & K.

*741. **P. pubescens** (Willd.) MacM. Downy Rattlesnake Plantain. *Goodyera pubescens* R. Br. Woods. Frequent. Th.

742. **P. repens ophioides** (Fernald) Heller. Lesser Rattlesnake Plantain. *Goodyera repens* R. Br. Bangor, Van Buren Co., Bailey; Grand Rapids, Coleman Cat.; Roscommon Co., Dr. D. Cooley; Alma, C. A. Davis; Petoskey and northward. Infrequent. Th.

ACHROANTHES Raf. Microstylis Nutt.

743. **A. monophylla** (L.) Greene. White Adder's-mouth. *Microstylis monophylla* Lindl. Hubbardston; Flint; Macomb Co.; bogs near Long Lake and Black Lake, Cheboygan Co., B. & K. Rare.

744. **A. unifolia** (Michx.) Raf. Green Adder's-mouth. *Microstylis ophioglossoides* Nutt. Ann Arbor, Allmendinger Cat.; Hubbardston; Bay Co., G. M. Bradford; Lenawee Co., F. G. Comstock. Rare.

LEPTORCHIS Thouars. Liparis L. C. Richard.

745. **L. liliifolia** (L.) Kuntze. Large Twayblade. *Liparis liliifolia* Richard. S. W. Wright's Cat.

746. **L. Loeselii** (L.) MacM. Fen Orchis. *Liparis Loeselii* Richard. Ann Arbor. Allmendinger Cat.; abundant in a tamarack swamp near Hubbardston; S. Haven, L. H. Bailey; Flint; Macomb Co.; Keweenaw Co., O. A. Farwell; Sault de Ste. Marie, Porter; Alma, C. A. Davis. Th.

CALYPSO Salisb.

747. **C. borealis** (L.) Oakes. Calypso. Forty-mile Point, Presque Isle Co., Winch. Cat.; shores of Higgins Lake, Dr. D. Cooley; Mount Pleasant, E. F. Smith; Grayling, G. H. Hicks; Frankfort, E. J. Parker; Keweenaw Co., O. A. Farwell; Mackinac, Whitney Cat.; L. Superior, J. Macoun. in Can. Cat.

TIPULARIA Nutt.

748. **T. unifolia** (Muhl.) B. S. P. Crane-fly Orchis. *T. discolor* Nutt. Coleman Cat.; N. Mich., D. Cooley; eastern coast of L. Huron, J. Macoun. Our rarest orchid.

APLECTRUM Nutt.

*749. **A. spicatum** (Wallt.) B. S. P. Adam-and-Eve. Putty-root. *A. hiemale* Nutt. Rich woods. Ann Arbor, Allmend. Cat.; Detroit, Gillman; Macomb Co.; Montcalm Co.; Flint; Hubbardston; Grand Rapids, Coleman's Cat.; Niles, Mitchell; Keweenaw Co., O. A. Farwell; Alma, C. A. Davis. Scarce.

CORALLORHIZA R. Br.

*750. **C. Corallorhiza** (L.) Karst. Early Coral-root. *C. innata* R. Br. S. E., Wright Cat.; Park Lake, Clinton Co.; Harmon; Grayling; Frankfort; L. Superior; S. W., H. S. Pepoon. Not rare. Whitney Cat. Th.

*751. **C. multiflora** Nutt. Large Coral-root. Hubbardston; S. W., Wright Cat.; Cheboygan Co., B. & K.; Detroit, O. A. Farwell; Alma, C. A. Davis; northward to Lake Superior. Th.

752. **C. odontorhiza** (Willd.) Nutt. Small-flowered Coral-root. Hubbardston; Flint; Frankfort; Oscoda; northward to Lake Superior, Whitney Cat. Th.

753. **C. striata** Lindl. Striped Coral-root. Frankfort; Comins, Oscoda Co.; abundant at Mackinac; St. Clair Co., C. K. Dodge; Keweenaw Co., O. A. Farwell. Becoming scarce, N. & U. P.

SAURURACEÆ Lindl. Lizard's-tail Family.

SAURURUS L.

*752. **S. cernuus** L. Lizard's-tail. Swamps, river-sides. Common. C. & S.

JUGLANDACEÆ Lindl. Walnut Family.

JUGLANS L.

*753. **J. cinerea** L. Butternut. Low rich woods.
*754. **J. nigra** L. Black Walnut. Becoming scarce from Bay City south. C. & S.

HICORIA Raf. CARYA Nutt.

*755. **H. alba** (L.) Britton. Mocker-nut. *Carya tomentosa* Nutt. Dry Woods. Flint; Grand Rapids, Coleman's Cat.; Three Rivers; Cassopolis, C. F. Wheeler; Ann Arbor, C. A. Davis. Rare. C. & S.
756. **H. borealis** Ashe. Northern Hickory. Belle Isle, Detroit, O. A. Farwell; Rochester, W. A. Brotherton, and probably elsewhere.
757. **H. glabra** (Mill.) Britton. Pig-nut Hickory. *Carya porcina* Nutt. Woods. Alma, Ann Arbor, C. A. Davis. C. & S.
758. **H. laciniosa** (Michx. f.) Sarg. King-nut. *Carya sulcata* Nutt. Monroe Co., White Pigeon, W. J. B.; Teconsha, G. W. Davis; Ann Arbor, C. A. Davis. River bottoms. Rare, except in the extreme south.
759. **H. microcarpa** (Nutt.) Britton. Small-fruited Hickory. *Carya microcarpa* Nutt. Ann Arbor; Cassopolis; Three Rivers. S.
*760. **H. minima** (Marsh.) Britton. Bitter-nut. *Carya amara* Nutt. Common. C. & S.
*761. **H. ovata** (Mill.) Britton. Shag-bark. C. & S. *Carya alba* Nutt. Common. C. & S.
762. **H. villosa** (Sargent) Ashe. Belle Isle, O. A. Farwell.

MYRICACEÆ Dumort. Sweet-Gale Family.

MYRICA L.

763. **M. cerifera** L. Bayberry. Wax-myrtle. S. Mich., Winch. Cat.; Wayne Co., C. A. Davis.
764. **M. Gale** L. Sweet Gale. Swamp near Crooked Lake, Emmet Co.; Harrisville; Manistee, E. J. Hill; Isle Royale, Dr. A. B. Lyons; Roscommon, C. A. Davis. N. & U. P.

COMPTONIA Banks.

764. **C. peregrina** (L.) Coulter. Sweet-fern. *Myrica asplenifolia* L. South, Wr. Cat.; Detroit, Dr. A. B. Lyons; Alma, C. A. Davis. Very common in the center of the State and northward throughout the pine country, of which it is a chracteristic species.

SALICACEÆ Lindl. Willow Family.

POPULUS L.

*765. **P. alba** L. White Poplar. Abele. Occasionally escaped from cultivation.
*766. **P. balsamifera** L. Balsam Poplar. River banks. A small tree in Michigan. Northward. Th.
766a. **P. candicans** Ait. Balm of Gilead. *P. balsamifera candicans* A. Gray. Cultivated, occasional. Indigenous northward.
*768. **P. deltoides** Marsh. Cottonwood. *P. monilifera* Ait. Sometimes a large tree, three feet in diameter. Infrequent. Collected by the Forestry Commission, June, 1888, in Alcona Co. L. P.
*769. **P. dilatata** Ait. Lombardy Poplar. Occasionally escaped from cultivation.
*770. **P. grandidentata** Michx. Large-toothed Aspen. Woods. Common northward, but "rare in U. P." Whitney Cat.; Alma, Ann Arbor, C. A. Davis.

771. P. heterophylla L. Swamp or Downy Poplar. Cass Co., J. H. Roy.
*772. P. tremuloides Michx. American Aspen. Woods and lake shores; most abundant in U. P., Whitney. Common. Th.

SALIX L.

773. S. adenophylla Hook. Tomentose Willow. Beach sand, Lake Michigan, and northward. Petoskey; St. Jo., Dr. Wright in Torr. Herb., Bebb. Hooker's original specimens came from Labrador.
*774. S. alba vitellina (L.) Koch. Golden Willow. Naturalized from Europe.
*755. S. amygdaloides Anders. Peach-leaved Willow. Flint, Dr. D. Clark; Hubbardston; Harrisville; Detroit, O. A. Farwell. Th.
776. S. balsamifera (Hook.) Barratt. Balsam Willow. Flint, Dr. D. Clark; Keweenaw Co., O. A. Farwell; near Port Huron, C. K. Dodge.
777. S. balsamifera lanceolata Bebb. Keweenaw Co., O. A. Farwell.
778. S. balsamifera vegeta Bebb. Keweenaw Co., O. A. Farwell.
*779. S. Bebbiana Sarg. Bebbs' Willow. *S. rostrata* Richardson. Moist or dry ground. Common. Th.
779a. S. Babbiana x petiolaris No. 37 Bebb. Herb. Salicum. Flint, Dr. D. Clark.
*780. S. candida Fluegge. Hoary Willow. Usually in tamarack swamps. Rare in S. part of the State. Common northward. Alma, Ann Arbor, C. A. Davis. Th.
781. S. candida x cordata Bebb. Flint, Dr. D. Clark; Hubbardston, C. F. Wheeler.
*782. S. cordata Muhl. Heart-leaved Willow. Along streams. Narrow-leaved forms occur in the central and southern parts of the State; at Petoskey, broadly ovate-heart-shaped leaved forms occur. Common. Th.
783. S. cordata angustata (Pursh.) Anders. Ypsilanti, Detroit, O. A. Farwell.
*784. S. cordata x sericea Bebb. L. H. Bailey; Flint, Dr. D. Clark.
*785. S. discolor Muhl. Glaucous Willow. River banks. Common.
786. S. eriocephala Michx. Keweenaw Co., O. A. Farwell. *S. discolor eriocephala* Anders.
789. S. fragilis L. Brittle Willow. Planted in cities and villages. Birmingham, S. Alexander.
*790. S. fragilis x alba Wimmer. Coleman's Catalogue; Palmer's Cat.
*791. S. glaucophylla Bebb. Broad-leaved Willow. Hubbardston; Petoskey, frequent along the shores of Little Traverse Bay, and shores of the Great Lakes. Rare in the interior. Th.
792. S. glaucophylla angustifolia Bebb. Sturgeon Point, Alcona Co.
793. S. glaucophylla brevifolia Bebb. Shores of Little Traverse Bay, C. F. Wheeler.
*794. S. humilis Marshall. Prairie Willow. Common northward to Marquette Co., Burt MS. Cat. A very broad-leaved form with the young leaves round obovate to nearly round, collected by O. A. Farwell, Keweenaw Co.; Ann Arbor, C. A. Davis.
*795. S. humilis x discolor Bebb. Keweenaw Co., O. A. Farwell.
795a. S. interior Rowlee. Wet places. Common. Th.
796. S. interior Wheeleri Rowlee. Bay Co., G. M. Bradford; Belle Isle, O. A. Farwell.
*797. S. lucida Muhl. Shining Willow. Along streams. Variable. Common. Th.
*798. S. myrtilloides L. Myrtle Willow. Sphagnous swamps. S. E., Winch. Cat.; Ionia to L. Superior. Frequent. Th.
799. S. myrtilloides pedicellaris Anders. Keweenaw Co., O. A. Farwell.
*800. S. nigra Marshall. Black Willow. Along streams; a small tree. Th.
801. S. nigra falcata (Pursh.) Torr. Bay City and vicinity, G. M. Bradford.
*802. S. petiolaris J. L. Smith. Petioled Willow. With the last. From Sault de Ste. Marie southward. Ionia Co. Frequent. Th.
803. S. petiolaris gracilis Anders. Slender Willow. S. western part of the State.
804. S. petiolaris x candida Bebb. Herb Salicum, No. 30. Originally from Hascall's swamp, near Flint, Mich., where it was discovered by Daniel Clarke, M. D., in 1872—the locality being soon after obliterated. Should it be deemed advisable hereafter to treat supposed hybrids as quasi-species, after the manner of Anderson, Kerner and others, I very much wish that this beautiful willow should be called S. Clarkei, to commemorate the name of a botanist who has done more than any other to give an impetus to the study of hybrid willows in this country, M. S. Bebb, 1880. Swamp near Hubbardston, Ionia Co., C. F. Wheeler.
*805. S. proinoides Pursh. *S. discolor prinoides* (Pursh.) Anders. Common.
*806. S. sericea Marshall. Silky-Willow. Drummond's Is., Winch. Cat.; Ionia Co., and southward to S. Haven, L. H. Bailey; shore of Black Lake, Cheboygan Co. Very common in central part of the State; Alma, Ann Arbor, C. A. Davis.

807. **S. sericea x candida** Bebb., *forma denudata* Bebb. Herb. Salicum; Flint, Dr. Clark.

808. **S. sericea x candida** Bebb. Herb. Salicum, No. 32. Flint, Dr. D. Clark; Hubbardston, C. F. Wheeler.

809. **S. tristis** Ait. Dwarf Gray Willow. Alcona Co.; Barron Lake, Cass Co.; Monroe Co. Infrequent.

*810. **S. viminalis** L. Basket Osier. Woodward Lake, Ionia Co.; S. Haven, L. H. Bailey.

BETULACEÆ Agardh. Birch Family.

CARPINUS L.

*811. **C. Caroliniana** Walter. American Hornbeam. Blue or Water Beech. Along streams. Th.

OSTRYA Scop.

*812. **O. Virginica** (Mill.) Willd. American Hop-Hornbeam. Lever-wood. Rich woods. Common. Th.

CORYLUS L.

*813. **C. Americana** Walt. Wild Hazel-nut. Thickets. Common. Th.

814. **C. rostrata** Ait. Beaked Hazel-nut. Hubbardston; and common northward. St. Clair Co., C. K. Dodge; Alma, C. A. Davis.

BETULA L.

815. **B. glandulosa** Michx. Dwarf Birch. Burt's MS. Cat.; Keweenaw Co., O. A. Farwell. U. P.

*816. **B. lenta** L. Cherry Birch. Sweet or Black Birch. Ann Arbor, Allmend. Cat.; S. Haven, L. H. Bailey; Lenawee Co., W. J. B.; Hubbardston; Flint and northward to L. Superior. Rare in the south, but attains a "monstrous size" on Drummond's Island, Winch. Cat. Th.

817. **B. lutea** Michx. f. Yellow or Gray Birch. Ann Arbor, Winch. Cat.; S. Haven, L. H. Bailey, to L. Superior. Common along the line of the F. & P. M. R. R. and northward to the Traverse country; a large tree south of the Grand-Saginaw valley; Alma, Ann Arbor, C. A. Davis.

*818. **B. papyrifera** Marshall. Paper or Canoe Birch. White Birch. Extends southward to Lansing and perhaps further. Frequent at Crystal Lake, Montcalm Co., as a small tree.

*819. **B. pumila** L. Low Birch. Swamps. Variable. Frequent. Th.

ALNUS Gaertn.

820. **A. Alnobetula** (Ehrh.) K. Koch. Green Alder. *A. viridis* DC. "Dry rocky land," Whitney's Cat.; Isle Royale, Dr. A. B. Lyons; high hills, Escanaba, E. J. Hill; Keweenaw Co., O. A. Farwell. Common. U. P.

*821. **A. incana** (L.) Willd. Speckled or Hoary Alder. Borders of streams. The prevailing alder in center of the State and in U. P. Common.

822. **A. rugosa** (DuRoi) K. Koch. Smooth Alder. *A. serrulata* Willd. Smooth Alder. Macomb Co.; Traverse City and S. Mich., Winch. Cat.; Burt's MS. Cat. Rare or local.

FAGACEÆ Drude. Beech Family.

FAGUS L.

*823. **F. Americana** Sweet. American Beech. *F. ferruginea* Ait. Common in L. P., but rare in U. P. Occurs at Mackinac and Pictured Rocks; St. Mary's River, Macoun. Th.

CASTANEA Adans.

824. **C. dentata** (Marsh.) Borkh. American Chestnut. *C. sativa Americana* S. Wats. Occurs abundantly along an outcrop of Helderberg limestone in E. Monroe Co. and Wayne Co., C. F. Wheeler; Ann Arbor, Dr. Steere; Detroit River to Lake St. Clair, Macoun, in Can. Cat.; St. Clair Co., C. K. Dodge. **S. E.**

QUERCUS L.

*825. Q. acuminata (Michx.) Houda. Chestnut or Yellow Oak. *Q. Muhlenbergii* Engelm. Rich woods. A medium sized tree. Alma, Ann Arbor, C. A. Davis. C. & S.

*826. Q. alba L. White Oak. Rich woods. Rare in U. P., Menominee Co., Burt. MS. Cat. Common. Th.

827. Q. Alexanderi Britton. Alexander's Oak. Birmingham, Oakland Co. S. Alexander; Addison, Lenawee Co., O. C. McLouth. Moist land adapted to swamp white oak, bitternut and American Elm.

828. Q. borealis Michx. Gray Oak. *Q. rubra borealis* (Michx.) O. A. Farwell, similar to Red Oak. Keweenaw Co., O. A. Farwell. Referred by Elgelmann to *Q. rubra* L.

*829. Q. coccinea Wang. Scarlet Oak. Frequent. L. P.

830. Q. coccinea x palustris Hill. Detroit, O. A. Farwell. Frequent.

831. Q. ellipsoidalis E. J. Hill. Hill's Oak. A tall tree on moist sandy land. West of Ann Arbor, C. A. Davis.

832. Q. imbricaria Michx. Laurel or Shingle Oak. Barrens, Galesburg, H. Dale Adams; Ann Arbor, C. A. Davis; Sturgis, F. P. Daniels; S. Mich., Dr. Wright. Rare.

833. Q. Leana Nutt. *Q. imbricaria x velutina* Jackson, S. H. Camp; Ann Arbor, C. A. Davis.

*834. Q. macrocarpa Michx. Burr Oak. Over-cup or Mossy-cup Oak. Rich soil. Common. A form of this oak occurs in Cheboygan Co., B. & K. Lower falls of Menominee River, the farthest north of any station in the State, C. F. Wheeler. Th.

835. Q. palustris DuRoi. Swamp, Spanish, or Pin Oak. Only seen in the S. portion of the State; Port Huron, C. K. Dodge; Belle Isle; Monroe Co.; Jackson, Marshall, W. J. B.; Algonac, W. S. Cooper; Ypsilanti, C. A. Davis.

*836. Q. platanoides (Lam.) Sudw. Swamp White Oak. *Q. bicolor* Willd. Low ground. A large tree. Common. C. & S.

837. Q. prinoides Willd. Dwarf Chestnut Oak. A low shrub or small tree. Macomb Co.; Barron Lake, Cass Co.; Brighton, Dr. J. B. Steere; Hubbardston; Muir; Gratiot Co., Washtenaw Co., C. A. Davis. Infrequent. C. & S.

*838. Q. rubra L. Red Oak. In the C. & S., a large tree.

839. Q. Schneckii Britton. Schneck's Red Oak. *Q. Texana* Sargent. Texas Oak. Wet woods, east of Ypsilanti, C. A. Davis.

*840. Q. velutina Lam. Black Oak. L. P. *Q. coccinea tinctoria* A. Gray. This species and Q. coccinea occur together in the C., and are seldom large—usually 40-50 ft., and 12-15 inches in diameter.

ULMACEÆ Mirbel. Elm Family.

ULMUS L.

*841. U. Americana L. White or American Elm. Low grounds. Common. Th.

*842. U. fulva Michx. Slippery or Red Elm. Rich soil. Frequent. Th.

*843. U. racemosa Thomas. Cork or Rock Elm. River banks. Frequent. Th.

CELTIS L.

*844. C. occidentalis L. Hackberry. Sugarberry. River banks. Frequent. C. & S.

MORACEÆ Lindl. Mulberry Family.

MORUS L.

845. M. alba L. White Mulberry. Ypsilanti, O. A. Farwell; Birmingham, S. Alexander.

*846. M. rubra L. Red Mulberry. A small tree on river bottoms. Ann Arbor, C. A. Davis. C. & S.

HUMULUS L.

847. H. Lupulus L. Common Hop. Banks of streams. Frequent northward. Th.

CANNABIS L.

*848. C. sativa L. Hemp. Waste places. Frequent.

URTICACEÆ Reichenb. Nettle Family.

URTICA L.

849. U. dioica L. Great Nettle. Waste places. Bay Co., G. M. Bradford; Manistee, F. P. Daniels. Occasional.
*850. U. gracilis Ait. Slender Nettle. Moist ground. Common. Th.

URTICASTRUM Fabr. LAPORTEA Gaud.

*851. U. divaricatum (L.) Kuntze. Wood Nettle. *Laportea Canadensis* Gaud. Thick woods along streams. Common. C. & S.

ADICEA Raf. PILEA Lindl.

852. A. pumila (L.) Raf. Richweed. *Pilea pumila* A. Gray. Low woods. Common. C. & S.

BOEHMERIA Jacq.

*523. B. cylindrica (L.) Willd. False Nettle. Moist ground. Common. C. & S.

LORANTHACEÆ D. Don. Mistletoe Family.

RAZOUMOFSKYA Hoffm.

854. R. pusilla (Peck) Kuntze. Small Mistletoe. *Arceuthobium pusillum* Peck. Chatham, C. F. Wheeler; Turin, B. Barlow; south of Cadillac, C. A. Davis. Parasitic on spruces distorting the branches.

SANTALACEÆ R. Br. Sandalwood Family.

COMANDRA Nutt.

855. C. livida A. DC. Northern Comandra. "Sandy shores, L. Superior," A. Gray; Traverse City, Dr. A. B. Lyons; Isle Royale, Whitney Cat.; Keweenaw Co., O. A. Farwell. U. P.
*856. C. umbellata (L.) Nutt. Bastard Toad-flax. Dry ground. Indifferently parasitic on roots. Common. Th.

ARISTOLOCHIACEÆ Blume. Birthwort Family.

ASARUM L.

*857. A. acuminatum (Ashe.) Bicknell. Long-tipped Wild Ginger. Agricultural College, C. F. Wheeler; Keweenaw Co., O. A. Farwell; Alma, W. S. Cooper.
*858. A. Canadense L. Wild Ginger. Moist woods. Common.
*859. A. reflexum Bicknell. Short-lobed Wild Ginger. Muskegon, C. D. McLouth; Saginaw, W. S. Cooper; Belle Isle, O. A. Farwell.
860. A. reflexum ambiguum Bicknell. Keweenaw Co., O. A. Farwell.

ARISTOLOCHIA L.

861. A. Serpentaria L. Virginia Snakeroot. Manistee, F. P. Daniels; Detroit, O. A. Farwell. Rare.

POLYGONACEÆ Lindl. Buckwheat Family.

RUMEX L.

862. R. Acetosa L. Sorrel Dock. Very abundant at Point-aux-Pins, above Sault de Ste. Marie, Macoun; N. shore of Lake Superior, Pitcher, Trelease's Revision of Rumex; Bay Co., G. M. Bradford.

*863. R. Acetosella L. Field or Sheep Sorrel. Sterile fields. Common. Th.

*864. R. altissimus Wood. Pale Dock. Sault de Ste. Marie, Winch. Cat.; Ionia; near Ann Arbor, C. A. Davis. Apparently introduced at the College. Rare.

*865. R. Britannica L. Great Water-dock. Wet places. Ann Arbor, C. A. Davis; Ionia Co.; Flint; Macomb Co.; and northward. Frequent.

*866. R. crispus L. Curled Dock. Narrow Dock. Everywhere in fields. Th.

866a. R. obtusifolius L. Broad-leaved Dock. Th.

*867. R. obusifolius x crispus Trelease. North Manitou Isle., Mrs. Wislizenus. Trelease, Revision of Rumex.

*868. R. Patientia L. Patience Dock. Adventitious at Portland, C. F. Wheeler.

869. R. salicifolius Weinm. White Dock. Shore of Little Traverse Bay, and northward. Scarce. N. & U. P.

870. R. sanguineus L. Red-veined Dock. Introduced from Europe.

*871. R. verticillatus L. Swamp Dock. River banks. Frequent. L. P.

FAGOPYRUM Gaertn.

*872. F. Fagopyrum (L.) Karst. Buckwheat. *F. esculentum* Moench. Persistent in fields.

POLYGONUM L.

*873. P. amphibium L. Water Persicaria. Borders of ponds. Frequent. Th.

874. P. arifolium L. Halberd-leaved Tear-thumb. Low grounds. South Haven, L. H. Bailey; Gros. Cap, L. Mich. Winch. Cat.; Bay Co., G. M. Bradford; S. Mich., Wright Cat. Infrequent. L. P.

*875. P. aviculare L. Knot-grass. The commonest of weeds. Th.

876. P. Careyi Olney. Carey's Persicaria. Fort Gratiot. Dr. Z. Pitcher.

877. P. cilinode Michx. Fringed Black Bindweed. Copses. S. Haven, L. H. Bailey; Huron and Roscommon counties, C. A. Davis. Common northward. Th.

*878. P. Convolvulus L. Black Bindweed. Waste grounds. Common. Th.

*879. P. dumetorun L. Detroit, O. A. Farwell.

*880. P. emersum (Michx.) Britton. Swamp Persicaria. *P. Muhlenbergii* S. Wats. East shore of Lake Huron, J. Macoun; Ionia Co.; Flint; Grand Rapids; Indian River; Black Lake; Cheboygan Co.; Alma, Ann Arbor; C. A. Davis; S. W., H. S. Pepoon.

*881. P. erectum L. Erect Knot grass. Waste places. Common.

*882. P. Hartwrightii A. Gray. Hart Wright's Persicaria. Kalamazoo, Tuthill; Indian River; Black Lake, Cheboygan Co., B. and K.; Lenawee Co., W. J. B.; Keweenaw Co., O. A. Farwell; Ann Arbor, C. A. Davis.

*883. P. Hydropiper L. Common Smartweed or Water-pepper. Moist grounds. Common. Th.

*884. P. hydropiperoides Michx. Mild Water-pepper. Wet places. Common. C. & S.

885. P. hydropiperoides Macouni Small. Detroit, O. A. Farwell.

*886. P. incarnatum Ell. Slender Pink Persicaria. Frequent.

*887. P. lapathifolium L. Dock-leaved Persicaria. River banks. Ionia Co.; Grand Rapids, Coleman Cat.; Keweenaw Co., O. A. Farwell. Frequent.

888. P. lapathifolium incanum (Shmidt.) Koch. Keweenaw Co., O. A. Farwell; L. Superior, O. B. Wheeler. Th.

889. P. lapathifolium nodosum (Pers.) Small. Escanaba, C. F. Wheeler; Detroit, O. A. Farwell.

*890. P. littorale Link. Shore Knotweed. Frequent. Th.

*891. P. orientale L. Prince's Feather. Sparingly escaped from gardens.

*892. P. Pennsylvanicum L. Pennsylvania Persicaria. Low grounds. Ionia Co.; Clinton Co.; Flint; S. Mich., Wright Cat. Frequent. C. & S.

*893. P. Persicaria L. Lady's Thumb. Waste places. Common. Th.

*894. P. punctatum Ell. Water Smartweed. *P. acre* H. B. K. Wet places. Ann Arbor; Ionia Co.; Mackinac, Winch. Cat.; Flint. Frequent. L. P.

895. **P. ramosissium** Michx. Bushy Knotweed. Les Cheneaux Islands, Coryell; Alpena, C. F. Wheeler.

896. **P. Rayi** Babing. Ray's Knotweed. Belle Isle, O. A. Farwell. Frequent.

*897. **P. sagittatum** L. Arrow-leaved Tear-thumb. Low grounds. Frequent. Th.

*898. **P. scandens** L. Climbing False Buckwheat. *P. dumetorum scandens* A. Gray. Moist thickets. Frequent. Th.

*899. **P. tenue** Michx. Slender Knot-grass. Sterile soil. S. Mich., Wright Cat.; common in Ionia Co.; Macomb Co., and northward.

*900. **P. Virginianum** L. Virginia Knotweed. Thickets. Common. C. & S.

901. **P. viviparum** L. Alpine Bistort. Shore of L. Superior, A. Gray; Isle Royale, Whitney Cat.; Keweenaw Co., O. A. Farwell. Common.

POLYGONELLA Michx.

902. **P. articulata** (L.) Meisn. Coast Jointweed. Traverse City, Winch. Cat.; L. Superior, Whitney Cat.; Oscoda; Black Lake, Cheboygan Co., B. & K.; Indian River, C. F. Wheeler; Harrison, W. J. B.; Crawford Co., O. Palmer; shores of Cable Lake, Berrien Co., H. S. Pepoon. N. & U. P.

CHENOPODIACEÆ Dumort. Goosefoot Family.

CHENOPODIUM L.

*903. **C. album** L. Lamb's quarters. Pigweed. Waste and cultivated ground. Common. Th.

*904. **C. album viride** (L.) Moq. Keweenaw Co., Detroit, Ypsilanti, O. A. Farwell.

*905. **C. ambrosioides** L. Mexican Tea. Waste places. Macomb Co.; Detroit; Ann Arbor, Miss Clark; S. W., Wright. Cat. Scarce. S.

906. **C. anthelminticum** L. Wormseed. Detroit, O. A. Farwell; Port Huron, C. K. Dodge.

907. **C. Bonus-Henricus** L. Good King Henry. Flint, Dr. Clark. Infrequent.

*908. **C. Botrys** L. Jerusalem Oak. Feather Geranium. Escaped from gardens. Abundant at Indian River, C. F. Wheeler; Detroit, O. A. Farwell; Port Crescent, C. A. Davis.

*909. **C. glaucum** L. Oak-leaved Goosefoot. Detroit and Keweenaw Co., O. A. Farwell; Alma, C. A. Davis.

*910. **C. hybridum** L. Maple-leaved Goosefoot. Waste grounds. Common. Th.

911. **C. leptophyllum** (Moq.) Nutt. Narrow-leaved Goosefoot. Bay City, Charlevoix, C. F. Wheeler; Keweenaw Co., O. A. Farwell.

912. **C. murale** L. Nettle-leaved Goosefoot. Grand Rapids, Coleman Cat.; Ypsilanti and Detroit, O. A. Farwell.

913. **C. rubrum** L. Red Goosefoot. Grand Rapids, H. C. Skeels; Bay City, G. M. Bradford.

*914. **C. urbicum** L. Upright Goosefoot. Waste grounds. Ionia Co.; Flint; Grand Rapids, Coleman Cat.; Ann Arbor, C. A. Davis. Infrequent. S.

BLITUM L.

*915. **B. capitatum** L. Strawberry Blite. *Chenopodium capitatum* Aschers. Rich shady ground. Common. Th.

CYCLOLOMA Moquin.

*916. **C. atriplicifolium** (Spreng.) Coulter. Winged Pigweed. *C. platyphyllum* Moq. Keweenaw Co., O. A. Farwell; Port Huron, C. K. Dodge; Manistee, F. P. Daniels.

ATRIPLEX L.

*917. **A. hastata** L. Halberd-leaved Orache. *A. patulum hastatum* A. Gray. Common at Detroit, Dr. A. B. Lyons; Bay Co., G. M. Bradford.

918. **A. patula** L. Spreading Orache. *A. littoralis* (L.) Sturgis, F. P. Daniels; along the Great Lakes.

CORISPERMUM L.

919. C. hyssopifolium L. Bug-seed. Frankfort, C. A. Davis; Detroit, O. A. Farwell; S. Haven, L. H. Bailey; and northward to L. Superior, along the shores of the Great Lakes.

SALSOLA L.

920. S. Tragus L. Russian Thistle. *S. Kali Tragus* Moq. Well scattered over the State.

AMARANTHACEÆ J. St. Hil. Amaranth Family.

AMARANTHUS L.

*921. A. blitoides S. Wats. Prostrate Amaranth. Lately introduced from the west, spreading rapidly along railroad tracks.

*922. A. graecizans L. Tumble-weed. *A. albus* L. Fields and gardens. Frequent. Th.

923. A. hybridus L. Slender Pigweed. *A. hypochondriacus* L. *A. chlorostachys* Willd. Scarcely escaped from gardens. Ann Arbor, Miss Clark; Detroit, O. A. Farwell.

*924. A. retroflexus L. Rough Pigweed. A common weed in gardens. Th.

925. A. spinosus L. Spiny Amaranth. Detroit, O. A. Farwell.

ACNIDA L.

*926. A. tamariscina concatenata (Moq.) Uline & Bray. Frequent in Grand River Valley; Detroit, O. A. Farwell.

*927. A. tamariscina tuberculata (Moq.) Uline & Bray. Low grounds. S. Mich., Winch. Cat.; Ionia Co.; Macomb Co. Frequent. C. & S.

PHYTOLACCACEÆ Lindl. Pokeweed Family.

PHYTOLACCA L.

*928. P. decandra L. Garget. Poke. Scoke. Pigeon-berry. Fields. Frequent. C. & S.

NYCTAGINACEÆ Lindl. Four-o'clock Family.

ALLIONIA Loefl. Oxyphabus L'Her.

929. A. hirsuta Pursh. Hairy Umbrella-wort. *Oxybaphus albidus* Choisy. Grand Rapids, C. W. Follass.

*930. A. nyctaginea Michx. Heart-leaved Umbrella-wort. *Oxybaphus nyctagineus* Sweet. Richmond, W. A. Brotherton.

AIZOACEÆ A. Br. Carpet-weed Family.

MOLLUGO L.

*931. M. verticillata L. Carpet-weed. Roadsides and sandy fields. Common. C. & S.

PORTULACACEÆ Reichenb. Purslane Family.

CLAYTONIA L.

932. C. Caroliniana Michx. Carolina Spring-beauty. Only found in the northern part of the State. Frankfort, E. J. Parker; Mackinac, July, 1888, G. H. Hicks; Keweenaw Co., O. A. Farwell; Alpena, C. A. Davis.

*933. C. Virginica L. Spring-beauty. An early and very pretty spring flower. Common. Th.

PORTULACA L.

934. P. grandiflora Hook. Garden Portulaca. Ypsilanti, Detroit, O. A. Farwell.

*935. P. oleracea L. Purslane. Pussley. Very tenacious of life—a vile weed in gardens. Very common.

CARYOPHYLLACEÆ Reich. Pink Family.

AGROSTEMMA L.

*936. **A. Githago** L. Corn Cockle. *Lychnis Githago* Scop. In wheat fields, but easily eradicated by sowing clean seed-wheat. Common.

SILENE L.

*937. **S. antirrhina** L. Sleepy Catchfly. Common.
938. **S. Armeria** L. Sweet William Catchfly. Baldwin, W. J. B.; Ypsilanti, O. A. Farwell.
*939. **S. noctiflora** L. Night-flowering Catchfly. Frequent in cultivated grounds. Th.
940. **S. stellata** (L.) Aiton. Starry Campion. Dr. Wright; Constantine, C. F. Wheeler. S.
941. **S. Virginica** L. Fire Pink. Catchfly. Winchell Cat.; Keweenaw Co., O. A. Farwell. Open woods, Lake Huron, Todd; islands in Detroit River. Maclagan, Canadian Catalogue. Th.
942. **S. vulgaris** (Moench.) Garcke. Bladder Campion. *S. Cucubalus* Wibel. Port Huron, C. K. Dodge; Manistee, F. P. Daniels.

LYNCHNIS L.

944. **L. alba** Mill. Evening Lynchnis. White Campion. *L. vespertina* Sibth. L. P. Rather common.
*945. **L. Coronaria** (L.) Desr. Mullein Pink. Keweenaw Co.; Grand Traverse, A. B. Lyons; Alma, C. A. Davis.

GYPSOPHILA L.

946. **G. muralis** L. Manistee, F. P. Daniels.

SAPONARIA L.

*947. **S. officinalis** L. Bouncing Bet. Soapwort. Waste places and roadsides. Old Mission, E. J. Hill; Keweenaw Co., O. A. Farwell. Th.

VACCARIA Medic. SAPONARIA L., in part.

*948. **V. Vaccaria** (L.) Britton. Cow-Herb. *Saponaria Vaccaria* L. Muir; S. Mich., Wright Cat.; Keweenaw Co., O. A. Farwell; St. Clair Co., C. K. Dodge. Sparingly introduced. Th.

DIANTHUS L.

949. **D. Armeria** L. Deptford Pink. Midland, E. P. Rice; Rochester, W. A. Brotherton; Detroit, O. A. Farwell.
950. **D. barbatus** L. Sweet William. Keweenaw Co., O. A. Farwell; Manistee, F. P. Daniels; St. Clair, C. K. Dodge.
951. **D. deltoides** L. Port Huron, C. K. Dodge.

ALSINE L. STELLARIA L.

952. **A. borealis** (Bigel.) Britton. Northern Stitchwort. *Stellaria borealis* Bigelow. Point au Barques, L. Huron, and Isle aux Train, Gillman; also, Gray in Manual, and Can. Cat.; Isle Royale, A. E. Foote. Infrequent. U. P.
953. A. borealis alpestris (Fries.) Britton. *Stellaria borealis alpestris* A. Gray. Alpena, Escanaba, Marquette, C. F. Wheeler.
954. **A. crassifolia** (Ehrh.) Britton. Fleshy Stitchwort. *Stellaria crassifolia* Ehrh. Dr. Lyons; Carson City, C. F. Wheeler. Rare.
*955. **A. graminea** (L.) Britton. Lesser Starwort. *Stellaria gramminea* L. Low ground. Common. Th.
955a. **A. longifolia** (Muhl.) Britton. Long-leaved Stitchwort. Low grounds. Common. Th.
956. **A. longipes** (Goldie) Coville. *Stellaria longipes* Goldie. Long-stalked Stitchwort. Gros Cap, L. Mich., abundant in pure sand, Winch. Cat.; Lake Superior, Dr. A. B. Lyons. Rare. N. & U. P.

957. A. media L. Common Chickweed. *Stellaria media* Cyr. Gardens and fields. A very abundant and hardy little weed. Th.
958. A. uliginosa (Murr.) Britton. Bog Starwort. *Stellaria uliginosa* Murr. Dr. Lyons. Infrequent. U. P.

CERASTIUM L.

959. C. arvense L. Field Chickweed. Lake Superior, Can. Cat.; Mackinac, G. H. Hicks. Infrequent. Th.
960. C. arvense oblongifolium (Torr.) Holl. & Britt. S. Mich., Winch. Cat.; wet woods close to Amherstburgh, Ont., Macoun; Belle Isle, O. A. Farwell.
961. C. longipedunculatum Muhl. Nodding Chickweed. *C. nutans* Raf. Macomb Co.; Flint; Lyons; S. W., H. S. Pepoon. Found on low grounds from Louisiana to Hudson's Bay. Rare.
962. C. semidecandrum L. Keweenaw Co., O. A. Farwell.
963. C. viscosum L. Larger Mouse-ear. Th. Not common.
*964. C. vulgatum L. Mouse-ear Chickweed. Common. Th.

SAGINA L.

965. S. nodosa (L.) Fenzl. Knotted Pearlwort. L. Superior and northward A. Gray; Isle Royale, Whitney's Cat.; Keweenaw Co., O. A. Farwell; Isle Royale, F. E. Wood. U. P.
966. S. procumbens L. Procumbent Pearlwort. Champion, Mich., E. J. Hill.

ARENARIA L. ALSINE Wahl.

*967. A. serpyllifolia L. Thyme-leaved Sandwort. *Alsine serpyllifolia* L. Sandy fields. Common. Th.
967a. A. serpyllifolia tenuior Roch. Keweenaw Co., O. A. Farwell.
968. A. stricta Michx. Rock Sandwort. *Alsine Michauxii* Hook, f. S. Michigan, Wright Cat.; Macomb Co.; Montcalm Co.; L. Sup., Can. Cat.; Constantine; Three Rivers; Alcona Co.; Crystal Lake, Benzie Co. Th.

MOEHRINGIA L. ARENARIA L., in part.

*969. M. lateriflora (L.) Fenzl. *Arenaria lateriflora* L. St. Clair Co., C. K. Dodge.
970. M. macrophylla (Hook.) Torr. Lake Superior, Britton & Brown. *Arenaria macrophylla* Hook.

SPERGULA L.

971. S. arvensis L. Corn Spurrey. Dr. Wright; Dr. Clark; Alma, C. A. Davis. Introduced from Europe.

TISSA Adans. BUDA Adans. SPERGULARIA Pers., in part.

972. T. rubra (L.) Britton. Purple Sandwort. *Spergularia rubra* Presl. Litchfield, W. T. Wallace; Rochester, W. A. Brotherton.

ANYCHIA Michx.

973. A. Canadensis (L.) B. S. P. Norvell, C. F. Wheeler; Jonesville, W. T. Wallace.
974. A. dichotoma Michx. S. Mich., Dr. Wright; Ann Arbor; Watkins Sta., Dr. A. B. Lyons.

SCLERANTHUS L.

*975. S annuus L. Knawel. Naturalized on the Agricultural College grounds; Ann Arbor, C. A. Davis.

NYMPHAEACEÆ DC. Water Lily Family.

BRASENIA Schreber.

*976. B. purpurea (Michx.) Casp. Water-shield. *B. peltata* Pursh. Greenville; Ionia; Ann Arbor; Fife Lake; Oscoda; Manistee, F. P. Daniels; St. Clair, W. S. Cooper; Alma, C. A. Davis; S. W., H. S. Pepoon. Infrequent. L. P.

NYMPHAEA L. NUPHAR Sibth. & Smith.

*977. N. advena Soland. Large Yellow Pond Lily. *Nuphar advena* R. Br. In company with water-lilies, but often a dirty plant seeming to delight in filth. Common. Th.

978. N. advena minor Morong. Long Lake, Cheboygan Co., B. & K.; Baldwin, W. J. B.

979. N. Kalmiana (Michx.) Sims. Small Yellow Pond-Lily. *Nuphar Kalmianum* R. Br. "Sag. Bay & S. W.," Winch. Cat.; S. tier of counties, Wright's Cat.; N. shore of Lake Superior, Agassiz. Rare.

CASTALIA Salisb.

980. C. odorata (Dryand.) Woodv. & Wood. Sweet-scented Water-Lily. *Nymphaea odorata* Dryand. Petoskey, E. J. Hill; Vestaburg, C. A. Davis. A form with pink flowers is found in Otsego Lake, Otsego County. Infrequent.

*981. C. tuberosa (Paine) Greene. Tuberous White Water-Lily. *Nymphaea tuberosa* Paine. In all our ponds and slow streams. Flowers large and delicately beautiful, fragrant. Th.

NELUMBO Adans.

982. N. lutea (Willd.) Pers. Yellow Nelumbo. Water Chinquapin. Lotus. River Rouge, south of Detroit; Mill pond, Vicksburg, Tuthill; River Raisin at Monroe, where it is abundant. Perhaps introduced by the Indians. Local.

CERATOPHYLLACEÆ A. Gray. Hornwort Family.

CERATOPHYLLUM L.

*983. C. demersum L. Hornwort. Ponds. Fruit in August. Common. Th.

MAGNOLIACEÆ J. St. Hil. Magnolia Family.

LIRIODENDRON L.

*984. L. Tulipifera L. Tulip-tree. Whitewood. A large sized tree, frequent at Ionia, Saranac, Lansing and southward, but not seen north of Grand River Valley. Formerly common but becoming infrequent.

ANONACEÆ DC. Custard-apple Family.

ASIMINA Adans.

*985. A. triloba (L.) Dunal. Common Papaw. A low tree, fruit edible. Frequent in the valleys of the Grand and Maple Rivers, whence it probably reaches its northern limit. Common southward. C. & S.

RANUNCULACEÆ Juss. Crowfoot Family.

HYDRASTIS Ellis.

*986. H. Canadensis L. Golden Seal. Yellow Puccoon. Rich, moist woods. Rather local. C. & S.

CALTHA L.

*987. C. palustris L. Marsh Marigold. In swamps. Frequently called "Cowslip." Very common. Th.

TROLLIUS L.

988. T. laxus Salisb. American Globe Flower. Linden, A. W. Chase.

COPTIS Salisb.

*989. **C. trifolia** (L.) Salisb. Three-leaved Goldthread. Bogs and coniferous woods. Common. Th.

ISOPYRUM L.

*990. **I. biternatum** (Raf.) Torr. & Gray. False Rue Anemone. Very common on "beech and maple" land, but not on oak. C. & S.

ACTAEA L.

*991. **A. alba** (L.) Mill. White Baneberry. Cohosh. Moist woods and hillsides. Frequent. Th.

992. **A. eburnea** Rydb. Ivory Baneberry. Keweenaw Co., O. A. Farwell.

*993. **A. rubra** (Ait.) Willd. Red Baneberry. Cohosh. *A. spicata rubra* Ait. Frequent. Th.

CIMICIFUGA L.

994. **C. racemosa** (L.) Nutt. Black Snakeroot. Black Cohosh. Bugbane. S. E., Winch. Cat.; Jackson, University Herb; U. P., Burt. Rare in Michigan.

AQUILEGIA L.

*995. **A. Canadensis** L. Wild Columbine. Frequent. Th.

996. **A. vulgaris** L. European Columbine. Keweenaw Co., O. A. Farwell. Escaped from gardens.

ANEMONE L.

*997. **A. Canadensis** L. Canada Anemone. Wind-flower. *A. Pennsylvanica* L. On low ground along streams; on higher land northward. Common. Th.

*998. **A. cylindrica** A. Gray. Long-fruited Anemone. Poor soil. Infrequent. L. P.

999. **A. Hudsoniana** Richards. Cut-leaved Anemone. Mackinaw, Whitney Cat. Mouth of Saginaw R., Winchell Cat.; Lake Superior, Gray; Frankfort; shore of Grand Traverse Bay, and Torch Lake near the landing, E. J. Hill; eight miles below Rock Harbor, Isle Royal, Porter; Bay Co., Tuscola Co., C. A. Davis. Has been confused with *A. multifida* Poir; a South American species.

1000. **A. parviflora** Michx. Northern Anemone. Dr. Lyons; Asa Gray; Pic River, Lake Superior, Macoun. Rare. U. P.

*1001. **A. quinquefolia** L. Wind-flower. Wood Anemone. *A. nemorosa* Michx. Bay Co., G. M. Bradford. Common. Th.

1002. **A. riparia** Fernald. Rochester and Detroit, O. A. Farwell.

*1003. **A. Virginiana** L. Frequent, preferring sand or gravel. Th.

HEPATICA Scop.

*1004. **H. acuta** (Pursh.) Britton. Sharp-lobed Liver-leaf. This species is very common on beech and maple land, while *Hepatica Hepatica* prefers oak soil. Th.

*1005. **H. Hepatica** (L.) Karst. Round-lobed Liver-leaf. *H. triloba* Chaix. Less frequent than the preceding, at least in the center. Th.

SYNDESMON Hoffmg. ANEMONELLA Spach.

*1006. **S. thalictroides** (L.) Hoffmg. Rue-Anemone. *Anemonella thalictroides* Spach. Quite local through C. & S.; Keweenaw Co., O. A. Farwell; Sturgis, F. P. Daniels; Ann Arbor, C. A. Davis.

PULSATILLA Adans.

1007. **P. hirsutissima** (Pursh.) Britton. Nuttall's Pasque Flower. *Anemone patens Nuttalliana* A. Gray. Norway, S. M. Tobey. Infrequent.

CLEMATIS L.

*1008. **C. Virginiana** L. Common Virgin's Bower. Frequent on low land. Th.

ATRAGENE L.

1009. **A. Americana** Sims. Purple Virgin's Bower. *Clematis verticillaris* DC. Norway, S. M. Tobey. Rare.

RANUNCULUS L.

*1010. **R. abortivus** L. Small-flowered Crowfoot. Common. Th.

*1011. **R. acris** L. Tall Crowfoot or Buttercup. "Classed by Hooker f. as indigenous." S. Watson. So. Haven; Macomb Co.; Flint; Huron shore, Winch. Cat.; and Lake Superior. Gradually spreading over the State. Infrequent. Th.

1012. **R. bulbosus** L. Bulbous Crowfoot or Buttercup. Sault Ste. Marie, Porter; Bay Co., G. M. Bradford; Keweenaw Co., O. A. Farwell. A bad weed in meadows.

*1013. **R. delphinifolius** Torr. Yellow Water-Crowfoot. *R. multifidus* Pursh. Ponds and slow streams. Perennial by rooting from the nodes of floating stems after flowering. The young plants rooting in mud are pubescent so far as observed in many parts of the State. Common. Th.

*1014. **R. fascicularis** Muhl. Early Crowfoot. Flowers sometimes double or with reversion of essential organs to leaves. Ann Arbor, C. A. Davis; Berrien Co., H. S. Pepoon. Hills and sandy plains. Infrequent from the center of the State southward.

1015. **R. Lapponicus** L. Lapland Buttercup. Thunder Bay, Lake Superior, Britton & Brown.

1016. **R. Macounii** Britton. Macoun's Buttercup. *R. hispidus* Hook. Lake Superior, Britton and Brown.

1017. **R. micranthus** Nutt. Rock Crowfoot. *R. obortivus micranthus* A. Gary. North shore of Lake Superior, Agassiz; Keweenaw Co., O. A. Farwell.

1018. **R. obtusiusculus** Raf. Water Plantain Spearwort. *R. ambigens* S. Wats. Dr. Lyons. St. Clair Co., A. F. Foerste and W. S. Cooper.

1019. **R. ovalis** Raf. Prairie Crowfoot. *R. rhomboideus* Goldie. On light sand; Muir and Palo in Ionia County; Lake Superior, Can. Cat. Prairies, Mich. A. Gray. Rare.

1020. **R. Pennsylvanicus** L. f. Bristly Crowfoot. Frequent on low land. Th.

1021. **R. Purshii** Richards. Pursh's Buttercup. Topinabee, S. H. Camp; Chandler's Falls, Atlanta; Alpena, C. F. Wheeler.

*1022. **R. recurvatus** Poir. Hooked Crowfoot. Woods in rich soil. Common. Th.

*1023. **R. repens** L. Creeping Buttercup. Port Huron, C. K. Dodge; Rochester, W. A. Brotherton and O. A. Farwell; Montreal River, Keweenaw Co., O. A. Farwell; in the lawn Agricultural College, C. F. Wheeler.

1024. **R. reptans** L. Creeping Spearwort. *R. Flammula reptans* E. Meyer. Infrequent except northward, and not seen in the center of the State. Sandy shore of Black Lake, Cheboygan Co., B. & K.; Belle Isle, O. A. Farwell; Algonac, W. S. Cooper. N. U. P.

1025. **R. reptans intermedius** (Hook.) Torr. & Gray. *R. Flammula intermedius* Hook. Keweenaw Co., O. A. Farwell.

*1026. **R. sceleratus** L. Cursed Crowfoot. Ditch Crowfoot. Ditches and low ground. Exceedingly variable, stems sometimes two inches in diameter. Frequent. Th.

*1027. **R. septentrionalis** Poir. Swamp Buttercup. Frequent and variable. Th.

BATRACHIUM S. F. Gray.

*1028. **B. divaricatum** (Schrank) Wimm. Stiff Water-Crowfoot. *Ranunculus circinatus* Sibth. Bear River, Petoskey, E. J. Hill; Ann Arbor, Allmendinger Cat.; Huron R., Lyons. The common form in L. P. Frequent. Th.

1029. **B. trichophyllum** (Chaix.) Bossch. White Water-Crowfoot. *Ranunculus aquatilis trichophyllus* A. Gray. Common. Not observed in E. and S. Black Lake, Cheboygan Co., B. & K.; Keweenaw Co., O. A. Farwell, St. Clair River and Lake, W. S. Cooper.

OXYGRAPHIS Bunge.

1030. **O. Cymbalaria** (Pursh.) Prantl. Seaside Crowfoot. *Ranunculus Cymbalaria* Pursh. South Haven, L. H. Bailey. Rare.

THALICTRUM L.

*1031. **T. dioicum** L. Early Meadow-Rue. Common along river banks. Th.

1032. **T. polygamum** Muhl. Tall Meadow-Rue. Keweenaw Co., O. A. Farwell.

*1033. **T. purpurascens** L. Purplish Meadow-Rue. Wet meadows. Common. Th.

NIGELLA L.

1033a. N. Damascena L. Fennel-flower. Escaped from gardens. Infrequent.

BERBERIDACEÆ T. G. Barberry Family.

BERBERIS L.

*1034. B. vulgaris L. Common Barberry. Sometimes escaped from cultivation; Flint, Dr. Clark; Tuscola Co., Ann Arbor, C. A. Davis; Bay Co., G. M. Bradford.

CAULOPHYLLUM Michx.

*1035. C. thalictroides (L.) Michx. Pappoose-root. Blue Cohosh. Common in L. P.

JEFFERSONIA Barton.

*1036. J. diphylla (L.) Persoon. Rheumatism-root. Twin-leaf. Infrequent. C. & S.

PODOPHYLLUM L.

*1037. P. pelatum L. May-Apple. Wild Mandrake. Very common. C. & S.

MENISPERMACEÆ DC. Moonseed Family.

MENISPERMUM L.

*1038. M. Canadense L. Canada Moonseed. Woods and moist thickets. Frequent.

LAURACEÆ Lindl. Laurel Family.

SASSAFRAS Nees & Eberm.

*1039. S. Sassafras (L.) Karst. Sassafras. *S. officinale* Nees & Eberm. Woods, sandy soil, Manistee, F. P. Daniels; Hamlin Lake, Mason Co., C. E. St. Johns; Bay Co., G. M. Bradford. Frequent. L. P.

BENZOIN Fabric.

*1040. B. Benzoin (L.) Coulter. Spice-bush. *Lindera Benzoin* Blume. Damp woods. Frequent. C. & S.

PAPAVERACEÆ B. Juss. Poppy Family.

Including also **Fumariaceæ.**

PAPAVER L.

1041. P. somniferum L. Common Poppy. Opium Poppy. Occasional. Escaped from cultivation.

SANGUINARIA L.

*1042. S. Canadensis L. Bloodroot. Common. Th.

STYLOPHORUM Nutt.

1043. S. diphyllum (Michx.) Nutt. Celandine Poppy. Rich woods, Oceana County and southward. Local. C. & S.

CHELIDONIUM L.

*1044. C. majus L. Celandine. Lebanon, Clinton Co., Van Vleck; Sturgis, F. P. Daniels.

BICUCULLA Adans. DICENTRA Bernh.

*1045. **B. Canadensis** (Goldie) Millsp. Squirrel Corn. *Dicentra Canadensis* Walp. From Frankfort southward. Frequent. L. P.

*1046. **B. Cucullaria** (L.) Millsp. Dutchman's Breeches. *Dicentra cucullaria* Torr. Frankfort, southward. Frequent. L. P.

ADLUMIA Raf.

1047. **A. fungosa** (Ait.) Greene. Climbing Fumitory. *A. cirrhosa* Raf. Hemlock woods in vicinity of Houghton Lake; Grand Rapids, Miss Clark; So. Haven; Marquette, E. J. Hill. Not common. Th.

CAPNOIDES Adans. CORYDALIS Vent.

1048. **C. aureum** (Willd.) Kuntze. Golden Corydalis. *Corydalis aurea* Willd. Sturgis, F. P. Daniels. Frequent northward in the U. P. Common.

1049. **C. sempervirens** (L.) Borck. Pale Corydalis. *Corydalis glauca* Pursh. Grand Haven; Clare Co.; L. Sup. Infrequent except northward. Oscoda; Alger's camp, Alcona Co. Th.

FUMARIA L.

1050. **F. officinalis** L. Fumitory. Escaped from cultivation at Ypsilanti. O. A. Farwell.

CRUCIFERÆ B. Juss. Mustard Family.

LEPIDIUM L.

*1051. **L. apetalum** Willd. Apetalous Pepper-grass. *L. intermedium* A. Gray. Alma. Ann Arbor, C. A. Davis; Keweenaw Co., O. A. Farwell; Manistee, F. P. Daniels.

1052. **L. campestre** (L.) R. Br. Field or Cow Cress. Bay Co., G. M. Bradford; Macomb Co., and Detroit. Infrequent. S. E.

1053. **L. sativum** L. Garden Pepper-grass. Port Huron, C. K. Dodge. Escaped from cultivation.

*1054. **L. Virginicum** L. Wild Pepper-grass. Alma, Ann Arbor. Th.

IBERIS L.

1055. **L. amara** L. Escaped from gardens. Keweenaw Co., O. A. Farwell.

CONRINGIA Link.

1056. **C. orientalis** (L.) Dumort. A bad weed in grain fields, introduced into northern Michigan from the northwest. O. A. Farwell.

THLASPI L.

*1057. **T. arvense** L. Field Pennycress. Ann Arbor. Allmendinger Cat.; "shores of Lake Huron," A. Gray; Monroe, C. A. Davis; Bay Co., G. M. Bradford.

SISYMBRIUM L.

1058. **S. altissimum** L. Tall Sisymbrium. A bad weed from Europe introduced into the Canadian Northwest. Benton Harbor in 1896, C. F. W.; later in many localities. Tuscola Co., C. A. Davis; near Detroit, O. A. Farwell.

1059. **S. humile** Meyer. Northern Rock-cress. Isle Royale, Gillman; Keweenaw Co., O. A. Farwell; Mackinac, G. H. Hicks; Macomb Co.; Grand Haven. Infrequent.

*1060. **S. officinale** (L.) Scop. Hedge Mustard. Road-sides and wet places. Frequent. Th.

CAKILE Gaertn.

1061. **C. edentula** (Bigel.) Hook. Sea-rocket. *C. Americana* Nutt. Shores of the great lakes. Common. Th.

SINAPIS L.

*1062. **S. alba** L. White Mustard. *Brassica alba* Boiss. Infrequent. Th.

BRASSICA L.

*1063. **B. arvensis** (L.) B. S. P. Charlock. *Brassica Sinapistrum* Boiss. A bad weed, becoming too frequent. Th.

1064. **B. campestris** L. Turnip. Keweenaw Co., O. A. Farwell.

*1065. **B. juncea** (L.) Cosson. Indian Mustard. Lapeer, Mrs. M. Owen; Keweenaw Co., O. A. Farwell; Port Huron, W. S. Cooper.

*1066. **B. nigra** (L.) Koch. Black Mustard. Common. Th.

DIPLOTAXIS DC.

*1067. **D muralis** (L.) DC. Sand Rocket. Grand Rapids, H. C. Skeels.

RAPHANUS L.

1067a. **R. Raphanistrum** L. White Charlock. Ballast grounds. Detroit, O. A. Farwell.

1067b. **R. sativus** L. Garden Radish. Persists for some time in old gardens and waste places.

BARBAREA R. Br.

1069. **B. Barbarea** (L.) MacM. Yellow Rocket or Cress. *B. vulgaris* R. Br. South Haven; Ann Arbor, Allmendinger Cat.; Macomb Co.; Alma, C. A. Davis; Hubbardston; Bay Co., G. M. Bradford; and N. into the U. P. where it is indigenous and frequent. Th.

1070. **B. praecox** (J. E. Smith) R. Br. Belle Isle Cress. Sandy ground. St. Clair Co., C. K. Dodge.

1071. **B. stricta** Andrz. Erect-fruited Winter Cress. *B. vulgaris stricta* A. Gray. Keweenaw Co., O. A. Farwell; St. Clair Co. near Capac, C. K. Dodge; Detroit, W. S. Cooper.

RORIPA Scop. NASTURTIUM R. Br.

1072. **R. Americana** (A. Gray) Britton. Lake Water-cress. *Nasturtium lacustre* A. Gray. From Fish Creek and Maple River southward. Infrequent. C. & S.

*1073. **R. Armoracia** (L.) Hitchcock. Horseradish. *Nasturtium Armoracia* Fries. Escaped from gardens into waste places. Frequent.

*1074. **R. hispida** (Desv.) Britton. Hispid Yellow Cress. *Nasturtium palustre hispidum* A. Gray. Alma, Ann Arbor, C. A. Davis. Th.

*1075. **R. Nasturtium** (L.) Rusby. True Water-cress. *Nasturtium officinale* R. Br. Ionia; South Haven; Ann Arbor, Alma, C. A. Davis. Frequent in brooks.

1076. **R. obtusa** (Nutt.) Britton. Blunt-leaved Yellow Cress. *Nasturtium obtusum* Nutt. Keweenaw Co., O. A. Farwell.

*1077. **R. palustris** (L.) Bess. Yellow Water-cress. *N. palustre* DC. Frequent. Th.

1078. **R. sylvestris** (L.) Bess. Creeping Yellow Water-cress. *Nasturtium sylvestre* R. Br. Detroit; O. A. Farwell.

CARDAMINE L.

*1079. **C. bulbosa** (Schreb.) B. S. P. Bulbous Cress. *C. rhomboidea* DC. Common. Th.

*1080. **C. hirsuta** L. Small Bitter Cress. New Buffalo, C. F. Wheeler; near Black Lake, Cheboygan Co., B. & K.; Belle Isle, O. A. Farwell; Alma, C. A. Davis. Th.

1081. **C. parviflora** L. Small-flowered Bitter-cress. New Buffalo, C. F. W.; Cheboygan Co., B. & K.; Keweenaw Co., O. A. Farwell; St. Clair Co., J. W. Stacey.

1082. **C. Pennsylvanica** Muhl. Pennsylvania Bitter-cress. Keweenaw Co., O. A. Farwell; Bay Co., G. M. Bradford.

*1083. **C. pratensis** L. Cuckoo-Flower. Bogs. Rare S., frequent in C., and common N. Th.

*1084. **C. purpurea** (Torr.) Britton. Purple Cress. *C. rhomboidea purpurea* DC. An early spring flower. Th.

MATTHIOLA L.

1085. **M. bicornis** (B. & S.) DC. Growing in sand along shore of Lake Huron. U. S. Dept. of Agriculture reported it as the only place in the country where it had escaped.

DENTARIA L.

*1086. **D. diphylla** Michx. Two-leaved Toothwort. Common. Th.
*1087. **D. laciniata** Muhl. Cut-leaved Toothwort. Keweenaw Co. and southward. Common. Th.
1088. **D. maxima** Nutt. Large Toothwort. Bluffs along Black River near Abbottsford, C. K. Dodge; the only station known in the State.

BURSA Weber. CAPSELLA Medic.

*1089. **B. Bursa-pastoris** (L.) Britton. Shepherd's Purse. *Capsella Bursa-pastoris* Medic. The commonest of weeds. Th.

CAMELINA Crantz.

*1090. **C. microcarpa** Andrz. Small-fruited False Flax. A weed which is becoming naturalized from Europe.
1091. **C. sativa** (L.) Crantz. Gold-of-Pleasure. False Flax. Road-sides and waste places. Flint; Ann Arbor; Macomb Co.; Sturgis; Bay Co.; Keweenaw Co., F. Not common. Th.

DRABA L.

1092. **D. Caroliniana** Walt. Carolina Whitlow-grass. Ionia Co. and southward. Rare. C. & S.
1093. **D. incana arabisans** (Michx.) S. Wats. Shores of Great Lakes. Mackinac, G. H. Hicks. Infrequent.
*1094. **D. nemorosa** L. Wood Whitlow-grass. "Fort Gratiot and northwestward." A. Gray. Collected by Dr. Pitcher. Infrequent.
*1095. **D. verna** L. Whitlow-grass. S. W., H. S. Pepoon; Detroit, Dr. Lyons. Rare. S.

SOPHIA Adans.

1096. **S. pinnata** (Walt.) Britt. Tansy Mustard. *Sisymbrium canescens* Nutt. Shores of Great Lakes, Pitcher, Houghton, Winchell; Barry Co., L. H. Bailey. Infrequent. Th.
1096a. **S. pinnata brachycarpa** (Richards) O. A. Farwell. Belle Isle, O. A. Farwell.
1097. **S. Sophia** (L.) Britton. Flixweed. Keweenaw Co., O. A. Farwell.

ARABIS L.

1098. **A. brachycarpa** (T. & G.) Britton. Purple Rock-cress. *A. confinis brachycarpa* Watson and Coulter. Keweenaw Co., O. A. Farwell; Marquette, Alpena, Hubbardston, C. F. Wheeler. Not common.
*1099. **A. Canadensis** L. Sickle-pod. Fields and rocky woods. Not common.
*1100. **A. dentata** T. & G. Toothed Rock-cress. Low lands along Grand River and southward. Not common. C. & S.
1100a. **A. Drummondii** A. Gray. *A. confinis* S. Wats., in part. Keweenaw Co., O. A. Farwell.
*1101. **A. glabra** (L.) Bernh. Tower Mustard. *A. perfoliata* Lam. Alma, Ann Arbor, C. A. Davis. Fields. Infrequent. Th.
*1102. **A. hirsuta** (L.) Scop. West Bay City, G. M. Bradford.
1103. **A. Holboellii** Hornem. Holboell's Rock-cress. Thunder Bay, Alpena Co., the most easterly known station for this western species, C. F. Wheeler.
*1104. **A. laevigata** (Muhl.) Poir. Smooth Rock-cress. River banks. Infrequent. Th.
1105. **A. lyrata** L. Lyre-leaved Rock-cress. Sandy fields, Hubbardston; South Haven; Flint; Petoskey; U. P., Whitney Cat. Infrequent. Th.
1106. **A. lyrata occidentaliss** S. Wats. Bower's Harbor, Grand Traverse Bay, Alpena, C. F. Wheeler.

ERYSIMUM L.

*1107. **E. cheiranthoides** L. Worm-seed Mustard. Gratiot Co.; Grayling, G. H. Hicks; Cheboygan Co., B. & K.; Keweenaw Co., O. A. Farwell; Port Huron, C. K. Dodge; Alma, Ann Arbor, C. A. Davis.
*1108. **E. inconspicuum** (S. Wats.) MacM. Small Erysimum. *E. parviflorum* Nutt. Probably introduced from the west. Clifton, Keweenaw Co., O. A. Farwell; St. Clair Co., C. K. Dodge.

ALYSSUM L.

*1109. A. alyssoides (L.) Gouan. Yellow Alyssum. *A. calycinum* L. Hubbardston, Ionia, Flint, C. F. Wheeler; Alma, Ann Arbor, C. A. Davis; Bay Co., G. M. Bradford. A recently introduced plant, becoming common in many localities. Door-yards and waste places.

HESPERIS L.

1110. H. matronalis L. Dame's Violet. Escaped from cultivation at Cassopolis, C. F. Wheeler; shore of Lake Huron, T. & G.; Ann Arbor, C. A. Davis; Keweenaw Co., Ypsilanti, O. A. Farwell.

CAPPARIDACEÆ Lindl. Caper Family.

CLEOME L.

1111. C. serrulata Pursh. Pink Cleome. *C. integrifolia* T. & G. Vestaburg, C. A. Davis. At one time introduced in several places near the Agricultural College, but now apparently extinct.

POLANISIA Raf.

1112. P. graveolens Raf. Clammy-weed. Shores of Great Lakes; Bay Co., G. M. Bradford; South Haven; Detroit; Put-in-Bay. Not rare.

RESEDACEÆ S. F. Gray. Mignonette Family.

RESEDA L.

1113. R. lutea L. Yellow cut-leaved Mignonette. Jackson, S. H. Camp.

SARRACENIACEÆ La Pyl. Pitcher-Plant Family.

SARRACENIA L.

1114. S. purpurea L. Side-saddle Flower. Huntsman's Cup. Pitcher-plant. Common in sphagnous swamps. Th.

1115. S. purpurea heterophylla (Eaton) Torr. Keweenaw Co., O. A. Farwell.

DROSERACEÆ S. F. Gray. Sundew Family.

DROSERA L.

1116. D. intermedia Hayne. Spatulate-leaved Sundew. ***D. intermedia*** var. *Americana* DC. S. Mich., Wright, Cat.; Ann Arbor, Allmendinger Cat.; Grand Rapids, R. H. Wolcott; Keweenaw Co., O. A. Farwell; Vestaburg, C. A. Davis. Th.

1117. D. linearis Goldie. Slender Sundew. Livingston Co.; L. Superior, Dr. Lyons; Keweenaw Co., O. A. Farwell; La Pointe, D. Houghton; Copper Harbor, F. E. Wood. Rare.

1118. D. longifolia L. Oblong-leaved Sundew. Mud Lake, Oakland Co., W. A. Brotherton.

*1119. D. rotundifolia L. Round-leaved Sundew. In sphagnous swamps. An insectivorous plant. Th.

PODOSTEMACEÆ Lindl. River-Weed Family.

PODOSTEMON Michx.

1120. P. Ceratophyllum Michx. River-weed. Thread-foot. Detroit, Dr. A. B. Lyons.

CRASSULACEÆ DC. Orpine Family.

SEDUM L.

*1121. S. acre L. Mossy Stone-crop. Escaped from cultivation; Alma, Whitmore Lake, C. A. Davis; Bay Co., G. M. Bradford; Keweenaw Co., O. A. Farwell.
*1122. S. Telephium L. Live-forever. Garden Orpine. Escaped from cultivation. Th.

PENTHORACEÆ Rydb.

PENTHORUM L.

*1123. P. sedoides L. Ditch Stonecrop. Roadsides and ditches; shore of Black Lake, Cheboygan Co., B. & K. Frequent. L. P.

SAXIFRAGACEÆ Dumort. Saxifrage Family.

SAXIFRAGA L.

1124. S. autumnalis L. Yellow Mountain Saxifrage. *S. aizoides* L. Northern Michigan, A. Gray; Britton & Brown. U. P.
1125. S. Aizoon Jacq. Livelong Saxifrage. Upper Mich., Gray; Isle Royale, Lyons, and Whitney. U. P.
*1126. S. Pennsylvanica L. Swamp Saxifrage. Bogs. Common. Th.
1127. S. tricuspidata Retz. Three-toothed Saxifrage. Shore of L. Superior and northward, A. Gray; Isle Royale, Dr. Lyons and Whitney Cat. U. P.
1128. S. Virginiensis Michx. Early Saxifrage. L. Superior, Can. Cat.; Keweenaw Co., O. A. Farwell. U. P.

TIARELLA L.

*1129. T. cordifolia L. False Mitrewort. Birmingham, Belle Isle, O. A. Farwell; Ft. Gratiot; Macomb Co.; Flint; Stanton, and northward. Common in N. & U. P.; rare in C. & S. W. Th.

HEUCHERA L.

1130. H. Americana L. Common Alum-root. Grand Rapids, Coleman; Ann Arbor, Winch. Cat.; Monroe Co., C. F. Wheeler; Ypsilanti, O. A. Farwell. C. & S.
*1131. H. hispida Pursh. Common in Grand-Saginaw Valley; Ypsilanti, O. A Farwell C. & S.

MITELLA L.

*1132. M. diphylla L. Mitre-wort. Hillsides in rich woods. Very common. Th.
*1133. M. nuda L. Shaded swamps in Sphagnum. Frequent. Th.

CHRYSOSPLENIUM L.

*1134. C. Americanum Schwein. South Haven; Hubbardston; Flint; Alma, C. A. Davis. Northward. Infrequent.

PARNASSIACEÆ Dumort. Grass-of-Parnassus Family.

PARNASSIA L.

*1135. P. Caroliniana Michx. Alma, C. A. Davis. Swamps and wet banks. Rare northward; common in C. & S.
1136. P. palustris L. Drummond's Is., Winch. Cat.; "shore of L. Superior and northward," A. Gray, from Dr. Pitcher; Harbor Point, C. A. Davis; Keweenaw Co., O. A. Farwell.
1137. P. parviflora DC. L. Sup., Can. Cat.; Grand Island, Henry Gillman; Harbor Point, C. A. Davis; also, northwest shore of Lake Michigan, in Wisconsin, Gillman. U. P.

GROSSULARIACEÆ Dumort. Gooseberry Family.

RIBES L.

1138. R. aureum Pursh. Permanently established on shore of Lake Huron, C. K. Dodge.

*1139. R. Cynosbati L. Gooseberry. Common. Th.

*1140. R. floridum L'Her. Wild Black Currant. Cheboygan Co., B. & K. Southward. Common. Th.

*1141. R. gracile Michx. Slender Gooseberry. St. Joseph's Island, and Sitting Rabbit, Winchell's Cat.; Chandler's, C. F. Wheeler.

1142. R. lactustre (Pers.) Poir. Swamp Gooseberry. As far south as Houghton Lake; Cheboygan Co., B. & K.; Keweenaw Co., O. A. Farwell.

*1143. R. oxyacanthoides L. Swamp Gooseberry. Low grounds along Fish Creek and Maple River; Flint; Macomb Co., northward and shore of Long Lake, B. & K.; Keweenaw Co., O. A. Farwell; Alma, Ann Arbor, C. A. Davis; Bay Co., G. M. Bradford.

1144. R. prostratum L'Her. Fetid Currant. Flint; Isabella Co.; Missaukee Co.; St. Joseph's Is., Winch. Cat.; Cheboygan Co., B. & K.; Keweenaw Co., O. A. Farwell. Frequent. C. N. & P.

1145. R. rotundifolium Michx. Thunder Bay Island, C. F. Wheeler.

*1146. R. rubrum L. Red Currant. Deep swamps and cold woods, under tamaracks. Ann Arbor; Ionia; Stanton; Cheboygan Co., B. & K. Infrequent. Th.

HAMAMELIDACEÆ Lindl. Witch Hazel Family.

HAMAMELIS L.

*1147. H. Virginiana L. Common. Th.

PLATANACEÆ Lindl. Plane-Tree Family.

PLATANUS L.

*1148. P. occidentalis L. Along our rivers. "The largest tree of the Atlantic forests." Sargent. C. & S.

ROSACEÆ B. Juss. Rose Family.

OPULASTER Medic. PHYSOCARPA Raf.

1149. O. opulifolius (L.) Kuntze. Ninebark. *Physocarpus opulifolius* Maxim. Along streams. Th.

SPIRAEA L.

*1150. S. salicifolia L. Common Meadow-Sweet. In marshes. Common. Th.

1151. S. sorbifolia L. Port Huron, C. K. Dodge.

*1152. S. tomentosa L. Hardhack. Steeple-bush. Grand Rapids, G. D. Sones; north of the College about three and one-half miles, W. J. B.; Sturgis, F. P. Daniels; Ann Arbor, C. A. Davis; Ionia Co., and southward. Infrequent. C. & S.

PORTERANTHUS Britton. GILLENIA Moench.

1152a. P stipulatus (Muhl.) Britton. Near Detroit, O. A. Farwell.

1153. P. trifoliatus (L.) Britton. Indian Physic. *Gillenia trifoliata* Moench. Bowman's Root. Winchell Cat. Rare. S.

RUBUS L.

*1154. R. Americanus (Pers.) O. A. F. Dwarf Raspberry. *R. triflorus* Richard. Frequent. Th.

1154a. R. argutus Link. Tall Blackberry. Keweenaw Co., O. A. Farwell.

*1155. **B. Baileyanus** Britton. Belle Isle, O. A. Farwell.

*1156. **R. Canadensis** L. Dewberry. Low Blackberry. *R. Millspaughii* Britt. Lake, Cheboygan Co., C. F. Wheeler; Alma, Ann Arbor, C. A. Davis; Keweenaw Co., O. A. Farwell. Black. Frequent. Th.

1157. **R. Ensleni** Tratt. Enslen's Dewberry. Detroit and vicinity, O. A. Farwell.

1157a. **R. frondosus** Bigel. Leafy-bracted Blackberry. *R. villosus frondosus* Bigel. Keweenaw Co., and Detroit, O. A. Farwell.

*1158. **R. hispidus** L. Running Swamp-B. Very abundant through the central in the pine country. Th.

*1160. **R. neglectus** Peck. Hubbardston; Birmingham; Belle Isle; Alma, C. A. Davis.

1161. **R. nigricans** Rydb. Peck's Dewberry. Detroit and vicinity, O. A. Farwell.

*1161a. **R. nigrobaccus** Bailey. High Bush Blackberry. *R. villosus* A. Gray. Very common in Central Mich., rare in U. P.

*1162. **R. occidentalis** L. Black R. Thimbleberry. Hybrids between this and *R. strigosus* frequently occur. Common. Th.

1163. **R. odoratus** L. Purple Flowering Raspberry. From Ft. Gratiot (Winchell) northward. Not observed in the interior of the C. & S. Common in N. and U. P. Th.

1164. **R. parviflorus** Nutt. Salmon-berry. *R. Nutkanus* Mocino. Salmon-berry. Frequent at Petoskey and common farther north; Elk Rapids, W. S. Cooper. N. & U. P.

1164a. **R. procumbens** Muhl. Low Running Blackberry. *R. Canadensis* T. & G., not L. Keweenaw Co., Detroit, O. A. Farwell.

*1165. **R. setosus** Bigel. Bristly Blackberry. Vestaburg, C. F. Wheeler.

*1166. **R. strigosus** Michx. Wild Red Raspberry. Variable. Common. Th.

DALIBARDA L.

1169. **D. repens** L. Ann Arbor, Mary Clark; Macomb Co., Cooley. May occur farther north, and perhaps throughout. Lake Huron, Bell, Canadian Catalogue.

DRYMOCALLIS Fourr. POTENTILLA, in part.

*1170. **D. arguta** (Pursh.) Rydb. Tall Cinquefoil. *Potentilla argnta* Pursh. Flowers either white or yellow, generally all in one locality of one color. Alma; Ann Arbor; Macomb Co.; Ionia; and N. to Isle Royal. Frequent on light sand; in places common. Th.

DASIPHORA Raf. POTENTILLA, in part.

*1171. **D. fruticosa** (L.) Rydb. Shrubby Cinquefoil. *Potentilla fruticosa* L. Edges of swamps. Ranges N. to Arctic America. Common. Th.

SIBBALDIOPSIS Rydb. POTENTILLA, in part.

1172. **S. tridentata** (Soland.) Rydb. Three-toothed Cinquefoil. *Potentilla tridentata* Soland. Barrens of Missaukee Co.; Grayling; shores of the Upper Great Lakes, A. Gray; Isle Royal, Dr. Lyons; Roscommon, C. A. Davis. N. & U. P. Frequent.

FRAGARIA L.

1173. **F. Americana** (Porter) Britton. American Wood Strawberry. *F. vesca Americana* T. G. Porter. Keweenaw Co., O. A. Farwell; Baldwin, W. J. B.; Vestaburg, C. A. Davis; Alpena, C. F. Wheeler.

1174. **F. Canadensis** Michx. Northern Wild Strawberry. N.

*1175. **F. Virginiana** Duchesne. Virginia Strawberry. *F. Virginiana Illinoensis* Prince. Common. Th.

COMARUM L. POTENTILLA, in part.

*1176. **C. palustre** (L.) Marsh Cinquefoil. *Potentilla plustris* Scop. Swamps throughout, but nowhere abundant.

ARGENTINA Lam. POTENTILLA, in part.

1177. **A. Anserina** (L.) Rydb. *Potentilla Anserina* L. Silver-weed. Frequent, along the Great Lakes, but rare in the interior. Banks of Higgins Lake, G. H. Cannon; Baldwin, W. J. B.; Otsego Co., Guy L. Stewart; Huron Co., C. A. Davis.

POTENTILLA L.

*1178. **P. argentea** L. Silvery Cinquefoil. Ann Arbor, Clark and Allmendinger; Alma, Davis; Inland, Benzie Co.; Behaves like a weed at Hanover, Mich., running out clover, G. E. Simmons; St. Clair Co., C. K. Dodge.

*1179. **P. Canadensis** L. Common Cinquefoil. Five-finger. Common. Th.

1180. **P. intermedia** L. Downy Cinquefoil. Well established in Livingston and Washtenaw counties, C. F. Wheeler.

1181. **P. Monspeliensis** L. Rough Cinquefoil. *P. Norvegica* L. Common. Th.

1182. **P. paradoxa** Nutt. Bushy Cinquefoil. Shores of Great Lakes.

1183. **P. Pennsylvanica** L. L. Superior, Gray's Man. Prof. Ellis, in Canadian Catalogue.

1184. **P. Robbinsiana** Oakes. Robbin's Cinquefoil. *P. frigida* A. Gray. (Not Villar.) Dr. Lyons. Rare. U. P.

*1185. **P. sulphurea** Lam. Much like *P. recta* L. Ypsilanti, O. A. Farwell; Howell Junction, C. F. Wheeler.

WALDSTEINIA Willd.

*1186. **W. fragarioides** (Michx.) Tratt. Barren Strawberry. Livingston Co., Winch. Cat.; Ionia; Flint to L. Sup., Whitney Cat. Rather local, but abundant when found at all. Th.

GEUM L.

*1187. **G. Canadense** Jacq. White Avens. *G. album* Gmelin. Common. L. P.

1188. **G. macrophyllum** Willd. Rare in L. P. Cheboygan Co., B. & K.; N. shore of Lake Superior, Agassiz.

*1189. **G. rivale** L. Water or Purple Avens. Swamps and wet places. Common. Th.

1190. **G. strictum** Aiton. New Haven, Gratiot Co.; Petoskey; Keweenaw Co., O. A. Farwell; St. Clair Co., A. F. Foreste.

1191. **G. vernum** (Raf.) T. & G. Spring Avens. St. Clair, Miss Gurd; Belle Isle, O. A. Farwell. Rare.

*1192. **G. Virginianum** L. Rough Avens. Common. C. & S.

SIEVERSIA R. Br. GEUM, in part.

1193. **S. ciliata** (Pursh.) Rydb. *Geum triflorum* Pursh. Otisco Tp., Ionia Co., A. B. Morse; Montcalm Co.; Ada, Greenville, C. A. Davis.

ULMARIA Hill.

1194. **U rubra** Hill. Queen-of-the-Prairie. *Spiraea lobata* Gronov. "Meadows and prairies, Penn. Co., Mich.," A. Gray. Occurs only in the S. W: R. R. track, near Augusta, L. H. Bailey; Calhoun Co.; University Herb. St. Joseph, V. Willoughby. S.

AGRIMONIA L.

*1195. **A. hirsuta** (Muhl.) Bicknell. Tall Hairy Agrimony. *A. Eupatoria hirsuta* Muhl. Dry soil. Common. Th.

*1196. **A. mollis** (T. & G.) Britton. Soft Agrimony. *A. Eupatoria mollis* T. & G. St. Clair Co., J. W. Stacey; Belle Isle, O. A. Farwell. Frequent.

1197. **A. parviflora** Soland. Many-flowered Agrimony. Detroit, Miss Clark; Macomb Co.; St. Clair Co., A. F. Foerste; S. W., H. S. Pepoon. Infrequent. S. E.

1198. **A. pumila** Muhl. Belle Isle, O. A. Farwell.

1199. **A. striata** Michx. Belle Isle, O. A. Farwell. *A. glabra* (Muhl.) Bicknell.

SANGUISORBA L. POTERIUM L.

1200. **S. Canadensis** L. American Great Burnet. *Poterium Canadense* A. Gray. South Haven, L. H. Bailey; Ann Arbor, Allmendinger. Rare.

ROSA L. Rose.

1201. **R. Arkansana** Porter. Harbor Springs, C. F. Wheeler; Keweenaw Co., O. A. Farwell. Rare.

1202. **R. blanda** Aiton. Ionia; Hubbardston; Flint; Ft. Gratiot, Winch. Cat.; Alma, Ann Arbor, C. A. Davis; Lake shore, New Buffalo, C. F. Wheeler, northward to

Keweenaw Co., O. A. Farwell. Common northward, but infrequent south of lat. 43° except along the shore of Lake Michigan. Th.

1203. **R. canina** L. Mackinac Island, Ypsilanti, O. A. Farwell.

*1205. **R. Carolina** L. Swamps. Common. Th.

*1206. **R. Carolina x humilis** C. F. Wheeler. A supposed hybrid. Border of a swamp near the Agricultural College.

1207. **R. centifolia** L. Along railway track St. Clair Co., C. K. Dodge.

1208. **R. Engelmanni** S. Wats. Prickly Rose. Cheboygan Co.; Mackinaw City; Petoskey, C. F. Wheeler; Keweenaw Co., O. A. Farwell.

*1209. **R. humilis** Marsh. Abundant and pretty. In the C. it is our common wild rose. Dry soil. Alma, Ann Arbor, C. A. Davis. A low form on hills about Ionia, has narrow leaves, with peduncles and ripe fruit glandular-bristly.

*1210. **R. rubiginosa** L. Sweetbrier. Eglantine. Roadsides. Frequent. C. & S.

1211. **R. Sayi** Schwein. Indian River, Black Lake, Cheboygan Co.; Mackinaw City; Petoskey, C. F. Wheeler; Oscoda; Keweenaw Co., O. A. Farwell. N. & U. P.

1212. **R. setigera** Michx. Climbing or Prairie Rose. South Haven, L. H. Bailey; Jackson Co., Winchell; Flint, Dr. Clark; Macomb Co., Cooley; Grosse Isle, Miss Clark; Belle Isle Park, Foerste; near Adrian, Mrs. I. H. Wheeler; along Bean Creek, Addison to Morenci, W. J. B. Indigenous, but rare or local. C. & S.

1213. **R. Woodsii** Lindl., Keweenaw Co., O. A. Farwell.

POMACEÆ L. Apple Family.

SORBUS L.

1214. **S. Aucuparia** L. European Mountain Ash. In a swamp near Bay City, G. M. Bradford.

1215. **S. Americana** Marsh. American Mountain Ash. *Pyrus Americana* DC. Ludington, and north along the Michigan shore to Charlevoix; Sault Ste. Marie; and into Canada where it is common; also westward, through U. P. Burt and Witney; near St. Clair River, C. K. Dodge. N. & U. P.

1216. **S. sambucifolia** (C. & S.) Roem. Western Mountain Ash. *Pyrus sambucifolia* Cham. & Schlect. Mackinac Island, H. Mann; Keweenaw Co., O. A. Farwell; near Houghton Lake, C. A. Davis.

PYRUS L.

1217. **P. communis** L. Common Pear. Ypsilanti, Detroit as an escape, O. A. Farwell.

MALUS Hill. Pyrus, in part.

*1218. **M. coronaria** (L.) Mill. American Crab Apple. *Pyrus coronaria* L. Thickets and along streams. Common. C. & S.

*1219. **M. Malus** (L.) Britton. Apple. Escaped from cultivation. Th.

ARONIA Medic. Pyrus, in part.

1220. **A. arbutifolia** (L.) Medic. Red Choke-berry. *Pyrus arbutifolia* L. f. Hubbardston, New Buffalo, Wheeler; St. Clair Co., C. K. Dodge, and northward.

*1221. **A. nigra** (Willd.) Britton. Black Choke-berry. *Pyrus arbutifolia melanocarpa* Michx. Burt. MS.; Isle Royale, Whitney's Cat. Frequent in swamps. Th.

AMELANCHIER Medic.

1222. **A. alnifolia** Nutt. Presque Isle, Winchell; Keweenaw Co., O. A. Farwell. Rare. N. & U. P.

*1223. **A. Canadensis** (L.) Medic. Shad-bush. Service-berry. Common. Th.

*1224. **A. Botryapium** (L. f.) DC. Shad-bush. *A. Canadensis oblongifolia* T. & G. Ionia; Flint; S. Mich., Winchell Cat.; Alma, Ann Arbor, C. A. Davis. Infrequent. Th.

1225. **A. oligocarpa** (Michx.) Roem. Shores of Lake Superior, Gray's Man.; Keweenaw Co., O. A. Farwell. U. P.

1226. **A. rotundifolia** (Michx.) Roem. Round-leaved June-berry. Grand River Valley, C. F. W.; Elk Rapids, W. S. Cooper. Not common.

1227. **A. spicata** (Lam.) Dec. Low June Berry. Shore of Thunder Bay, near Alpena, Grayling, C. F. Wheeler; Keweenaw Co., O. A. Farwell.

CRATAEGUS L.

1228. C. acutiloba Sargent. Detroit, O. A. Farwell.
1229. C. albicans Ashe. Detroit, O. A. Farwell.
1230. C. altrix Ashe. Detroit, O. A. Farwell.
1231. C. ater Ashe. St. Clair Co., W. W. Ashe.
1232. C. attenuata Ashe. St. Clair Co., W. W. Ashe
1233. C. borealis Ashe. St. Clair Co., W. W. Ashe; Keweenaw Co., O. A. Farwell.
1234. C. brevispina (Dougl.) Farwell. Keweenaw Co., O. A. Farwell. *C. punctata brevispina* Dougl.
1235. C. caesa Ashe. St. Clair Co., W. W. Ashe.
*1236. C. coccinea L. Common. Th.
*1237. C. Crus-galli L. Common. Th.
1238. C. decans Ashe. Detroit, O. A. Farwell.
1239. C. Dodgei Ashe. St. Clair Co., W. W. Ashe.
1240. C. fallax Ashe. St. Clair Co., W. W. Ashe.
1241. C. filipes Ashe. St. Clair Co., W. W. Ashe.
1242. C. gemmosa Sargent. Grand Rapids, Emma J. Cole; St. Clair Co., C. K. Dodge; Detroit, O. A. Farwell.
1243. C. glareola Ashe. St. Clair Co., W. W. Ashe.
1244. C. immanis Ashe. St. Clair Co., W. W. Ashe.
1245. C. latisepala Ashe. St. Clair Co., W. W. Ashe.
1246. C. lanta Ashe. St. Clair Co., W. W. Ashe.
1247. C. lumaria Ashe. St. Clair Co., W. W. Ashe.
*1248. C. macrantha Lodd. Long-spined Thorn. *C. coccinea macrantha* Dudley. Common. Th.
1249. C. Michiganensis Ashe. St. Clair Co., W. W. Ashe.
*1250. C. mollis (T. & G.) Scheele. Red-fruited Thorn. *C. coccinea mollis* T. & G. Frequent in C.; Monroe Co., C. F. Wheeler; Ontonagon, Mary H. Clark; Alma, Ann Arbor, C. A. Davis.
1251. C. nuperia Ashe. Detroit, O. A. Farwell.
1252. C. obtecta Ashe. St. Clair Co., W. W. Ashe.
1253. C. onusta Ashe. St. Clair Co., W. W. Ashe.
1254. C. Oxyacantha L. English Hawthorn. Detroit, O. A. Farwell.
1255. C. pascens Ashe. St. Clair Co., W. W. Ashe.
1256. C. pastora Sargent. Detroit, O. A. Farwell.
1257. C. prona Ashe. St. Clair Co., W. W. Ashe.
1258. C. prunifolia (Marsh.) Pers. Detroit, O. A. Farwell.
1259. C. pubifolia Ashe. St. Clair Co., W. W. Ashe.
1260. C. pubipes Ashe. St. Clair Co., W. W. Ashe.
*1261. C. punctata Jacq. Very variable. Common in south.
1262. C. rotundifolia (Ehrh.) Borck. Glandular Thorn. Grand Rapids, Island Lake, Grass Lake, C. F. Wheeler.
1263. C. redolans Ashe. Detroit, O. A. Farwell.
1264. C. sera Sargent. Detroit, O. A. Farwell.
1265. C. structilis Ashe. Detroit, O. A. Farwell.
1266. C. tenax Ashe. St. Clair Co., W. W. Ashe.
*1268. C. tomentosa L. Pear Thorn. Common. Th.
1269. C. virella Ashe. St. Clair Co., W. W. Ashe.

DRUPACEÆ DC. Plum Family.

PRUNUS L.

*1270. P. Americana Marsh. Wild Yellow or Red Plum. Black River, Cheboygan Co., B. & K.; St. Clair Co., C. K. Dodge; Detroit, O. A. Farwell; Alma, Ann Arbor, C. A. Davis. Th.
*1271. P. Cerasus L. Sour Cherry. Escaped from cultivation by the aid of birds. Keweenaw Co., O. A. Farwell, and in many other places.
1272. P. cuneata Raf. Appalachian Cherry. Bay City and vicinity, G. M. Bradford; Keweenaw Co., O. A. Farwell.
1273. P. domestica L. Well established. St. Clair Co., C. K. Dodge; Ypsilanti, O. A. Farwell.
1274. P. Mahaleb L. Mahaleb Cherry. Well established near St. Clair, C. K. Dodge; Detroit, O. A. Farwell.

*1275. P. nigra Ait. Canada Plum. Port Huron northward; Detroit, O .A. Farwell.

*1276. P. Pennsylvanica L. f. Wild Red Cherry. Very abundant on sandy land in the N. half of the State, but less common southward, where P. serotina takes it place.

1277. P. pumila L. Dwarf Cherry. Sand Cherry. L. Sup.; Emmet Co.; Houghton Lake; Mecosta Co.; South Haven; Saginaw Bay, Winchell, etc.; St. Clair Co., C. K. Dodge. Frequent in the N. half of the L. P., but not yet found in the interior. S. of Saranac, Ionia Co., where it occurs in a dry glade.

*1278. P. serotina Ehrh. Wild Black Cherry. Frequent in C. and S. Rare in N. and U. P.

*1279. P. Virginiana L. Choke Cherry. A shrub or small tree. Common. Th.

AMYGDALUS L.

1279a. A. Persica L. Peach. Well established at Ypsilanti, O. A. Farwell.

CAESALPINACEÆ Kl. & Garcke. Senna Family.

CERCIS L.

*1280. C. Canadensis L. Red-bud. Judas-tree. Indigenous throughout the southern part of the State, and as far N. in the west as Grand River Valley. Plaster Creek, Grand Rapids, Garfield; Ionia, Le Valley; banks of Thornapple River. Eaton Co.; Ann Arbor; Adrian; South Haven; near Medina a tree was found 26 inches in diameter! W. J. B.

CASSIA L.

*1281. C. Marilandica L. Wild Senna. Grand Haven; Ann Arbor, river banks; Bay Co., G. M. Bradford. Infrequent. C. & S.

1282. C. nictitans L. Sturgis, F. P. Daniels; S. W., H. S. Pepoon.

GLEDITSIA L.

1283. G. triacanthos L. Three-thorned Acacia. Honey-Locust. Grows along the River Raisin, and is certainly indigenous. Often two feet in diameter, W. J. B. Along the St. Joseph, also, and in other localities in the extreme S. Dundee, Niles, C. F. Wheeler; Detroit, O. A. Farwell; Milan, C. A. Davis.

GYMNOCLADUS Lam.

1284. G. dioica (L.) Koch. Kentucky Coffee-tree. C. & S. *G. Canadensis* Lam. A slender tree along the river banks as far N. as Maple River, in Clinton Co.; also Fish Creek, Montcalm Co.; banks of Grand River; Macomb Co., W. J. B.; Belle Isle, O. A. Farwell and W. J. B.; Sturgis, F. P. Daniels; Ann Arbor, C. A. Davis. Infrequent.

PAPILIONACEÆ L. Pea Family.

BAPTISIA Vent.

1285. B. leucantha T. & G. Large White Wild Indigo. Calhoun Co., Winch. Cat.; Ann Arbor, Allmendinger Cat.; shore of Lake Erie, Goldie, Canadian Cat.; near Detroit, O. A. Farwell. Rare.

*1286. B. tinctoria (L.) R. Br. Wild Indigo. Woodward Lake, Ionia Co.; Flint; Macomb Co.; Ann Arbor, Winch. Cat.; Alma, C. A. Davis. Abundant in places but not well distributed. C. & S.

CROTALARIA L.

1287. C. sagittalis L. Rattle-box. Detroit, O. A. Farwell.

LUPINUS L.

*1288. L. perennis L. Wild Lupine. C. & S. Abundant in light sand.

1289. L. perennis occidentalis S. Wats. Benton Harbor, C. F. Wheeler.

1290. L. polycarpus Greene. Ballast grounds. Detroit, O. A. Farwell.

MEDICAGO L.

1291. **M. denticulata** Willd. Toothed Medick. Detroit, O. A. Farwell.
*1292. **M. lupulina** L. Black Medick. Nonesuch. Waste places. . Mackinac; Jackson; Ann Arbor: Alma, C. A. Davis. L. P.
*1293. **M. sativa** L. Lucerne. Alfalfa. Escaped from cultivation in a few places.

MELILOTUS Juss.

*1294. **M. alba** Desv. White Melilot. Very common in the older portions of the State where it has often been sown by the roadside to furnish "pasture" for bees. L. P.
*1295. **M. officinalis** (L.) Lam. Yellow Melilot. It needs heavy soil. Rare. C. & S.

TRIFOLIUM L.

*1296. **T. arvense** L. Rabbit-foot or Stone Clover. Becoming naturalized in light soil.
1297. **T. aureum** Poll. Yellow or Hop Clover. *T. agrarium* L., in part. Port Huron, C. K. Dodge; Keweenaw Co., O. A. Farwell. Not common. Th.
1298. **T. depauperatum** Desv. Introduced at Detroit, O. A. Farwell.
1299. **T. dubium** Sibth. Grand Rapids, Miss E. J. Cole; Detroit and Ypsilanti, O. A. Farwell.
1300. **T. furcatum** Lindl. Introduced at Detroit, O A Farwell
*1301. **T. hybridum** L. Alsike Clover. Escaped from cultivation.
1302. **T. medium** L. Occasional in roads and fields. Port Huron, C. K. Dodge.
*1303. **T. pratense** L. Red Clover. Meadows and fields. Th.
*1304. **T. procumbens** L. Low Hop-Clover. Infrequent. C. & S.
*1305. **T. repens** L. White Clover. Meadows, pastures and roadsides. Very common. Th.
1306. **T. stoloniferum** Muhl. Running Buffalo Clover. Kalamazoo, Tuthill. Introduced (?)

AMORPHA L.

1307. **A. canescens** Pursh. Lead-plant. W. Mich., Winch. Cat.; Ann Arbor, Prof. M. W. Harrington; Kalamazoo: Tuthill; Klinger Lake; Barron Lake, C. F. Wheeler; Sturgis, F P. Daniels; Berrien Co., H. S. Pepoon. Rare.

KUHNISTERA Lam. PETALOSTEMON Michx.

1308. **K. purpurea** (Vent.) MacM. Violet Prairie-clover. *Petalostemon violaceus* Michx. Berrien Co., H. S. Pepoon.

CRACCA L. TEPHROSIA Pers.

1309. **C. Virginiana** L. Goat's Rue. Catgut. *Tephrosia Virginiana* Pers. Clinton Co.; Montcalm Co.; Newaygo Co.; Macomb Co.; Livingston Co., Miss Clark. On light sand. Infrequent. C. & S.

ROBINIA L.

*1310. **R. Pseudacacia** L. Common Locust or False Acacia. Escaped from cultivation.
1311. **R. viscosa** Vent. Clammy Locust. Escaped from cultivation at Ionia, C. F. Wheeler.

ASTRAGALUS L.

*1312. **A. Carolinianus** L. Carolina Milk Vetch. *A. Canadensis* L. Put-in-Bay; Ann Arbor; Macomb Co.; Orchard Lake; Montcalm Co.; river bank, North Lansing; Shiawassee Co., G. H. Hicks; Whitmore Lake, C. A. Davis; and northward. Well distributed, but infrequent. Th.

PHACA L. Some authors.

*1313. **P. neglecta** T. & G. Cooper's Milk Vetch. *Astragalus Cooperi* A. Gray. Dr. A. B. Lyons; Cooley MS.; Park Lake, Clinton Co., L. H. Bailey; Alma. Rare. C. & S.

STROPHOSTYLES Ell.

1314. **S. helvola** (L.) Britton. Trailing Wild Bean. *S. angulosa* Ell. S. E. along shore, and on the islands of Lake Erie, and shore of Lake Michigan at South Haven, L. H. Bailey; Belle Isle, O. A. Farwell. Probably not much farther north, and not found in the interior.

MEIBOMIA Heist. DESMODIUM Desv.

*1315. **M. bracteosa** (Michx.) Kuntze. Large-bracted Tick-trefoil. *Desmodium cuspidatum* Hook. Hubbardston; Flint; Ann Arbor; Macomb Co.; S. Mich., Wright; Alma. Usually on oak land. Frequent. C. & S.

*1316. **M. Canadensis** (L.) Kuntze. Showy Tick-trefoil. *Desmodium Canadense* DC. Hubbardston, and probably father N.; Flint; Ann Arbor, Allmendinger Cat. and Winch. Cat. Flowers early. Frequent. Th.

1317. **M. canescens** (L.) Kuntze. Hoary Tick-trefoil. *Desmodium canescens* DC. Ann Arbor, Allmend. Cat.; S. West, Wright, Cat. Rare. S.

*1318. **M. Dillenii** (Darl.) Kuntze. Dillen's Tick-trefoil. *Desmodium Dillenii* Darlington. Oak woods. Hubbardston; Flint; Macomb Co.; S. Mich., Wright Cat.; Mont Lake, Miss Clark. Frequent. C. & S.

*1319. **M. grandiflora** (Walt.) Kuntze. Pointed-leaved Tick-trefoil. *Desmodium acuminatum* DC. Woodlands. Very common. C. & S.

1320. **M. Illinoensis** (A. Gray) Kuntze. Illinois Tick-trefoil. *Desmodium Illinoense* A. Gray. University campus, Ann Arbor; White Pigeon, W. J. B.; S. W., H. S. Pepoon.

*1321. **M. Marilandica** (L.) Kuntze. Small-leaved Tick-trefoil. *Desmodium Marilandicum* F. Boott. Dry hills; Ionia, and southward; near Park Lake, Clinton Co., W. J. B.; Orion, O. A. Farwell. Infrequent. C. & S.

*1322. **M. Michauxii** Vail. Prostrate Tick-trefoil. *Desmodium rotundifolium* DC. Hubbardston; Ionia; Flint; South Haven; Macomb Co.; Ann Arbor, Allmend. Cat.; Orion, O. A. Farwell. Infrequent. C. & S.

*1323. **M. nudiflora** (L.) Kuntze. Naked-flowered Tick-trefoil. *Desmodium nudiflorum* DC. Crystal Lake, Montcalm Co.; Flint; Macomb Co.; S. Mich., Wright. Cat. Common. C. & S.

1324. **M. obtusa** (Muhl.) Vail. Hairy Small-leaved Tick-trefoil. *Desmodium ciliare* DC. Dr. Wright. Rare. S.

*1325. **M. paniculata** (L.) Kuntze. Panicled Tick-trefoil. *Desmodium paniculatum* DC. Oak woods. Hubbardston; Flint; Macomb Co.; Alma; South Haven; S. Mich., Wright's Cat. Frequent. C. & S.

*1326. **M pauciflora** (Nutt.) Kuntze. Few-flowered Tick-trefoil. *Desmodium pauciflorum* DC. Mont Lake, Miss Clark in Winch. Cat. Rare. S.

1327. **M. rigida** Ell. Kuntze. Rigid Tick-trefoil. *Desmodium rigidum* DC. Hubbardston; Flint; Macomb Co.; Ann Arbor and S. W., Winch. Cat. Infrequent. C. & S.

1328. **M. sessilifolia** (Torr.) Kuntze. Sessile-leaved Tick-trefoil. *Desmodium sessilifolium* T. & G. Michigan, A. Gray; S. Mich., Winch. Cat.; University Herb., Niles, Ames; Greenville; Rochester, O. A. Farwell. Rare. S.

LESPEDEZA Michx.

1329. **L. augustifolia** (Pursh.) Ell. Narrow-leaved Bush-clover. Sandy fields. Infrequent. C. & S.

*1330. **L. capitata** Michx. Round-headed Bush-clover. Abundant in old fields; prefers light sand. Common. C. & S.

*1331. **L. frutescens** (L.) Britton. Wand-like Bush-clover. *L. Sturei intermedia* S. Watts. *L. reticulata* S. Wats. Gray's Manual; Britton and Brown; Orion and Detroit, O. A. Farwell; S. W., H. S. Pepoon. S.

*1332. **L. hirta** (L.) Ell. Hairy Bush-clover. *L. polystachya* Michx. Common. C. & S.

1333. **L. Nuttallii** Darl. Nuttall's Bush-clover. Britton and Brown.

1334. **L. procumbens** Michx. Trailing Bush-clover. S. W., H. S. Pepoon.

1335. **L. Stuvei** Nutt. Stuve's Bush-clover. Winchell Cat.; Gray in Manual. Rare. S.

*1336. **L. violacea** (L.) Pers. Bush-clover. Ann Arbor, Miss Clark; S. W., Wright; Rochester, O. A. Farwell; Vestaburg, C. A. Davis. Infrequent.

1337. **L. Virginica** (L.) Britton. Slender Bush-clover Munith, G. H. Hicks; Norvell, C. F. Wheeler; Orion, O. A. Farwell.

VICIA L.

*1338. **V. Americana** Muhl. Ann Arbor; Ionia; Montcalm Co.: N. to Lake Superior; Whitmore Lake, C. A. Davis. Spreads rapidly in C., along railroads and highways and acts like an immigrant. Th.

1339. **V. angustifolia** Roth. Smaller Vetch. *V. sativa, angustifolia* Ser. Keweenaw Co., O. A. Farwell.

*1340. **V Caroliniana** Walter. Dry soil. Common. C. & S.

1341. **V. Cracca** L. Cow Vetch. S. Mich., Wright Cat.; Ann Arbor, Prof. M. W. Harrington; Alma, C. A. Davis. Rare or local.

1342. **V. sativa** L. Common Vetch. Tare. Detroit, Dr. Lyons; Springwells, Henry Gillman; Port Huron, C. K. Dodge; Belle Isle, O. A. Farwell; Alma. Infrequent.

LATHYRUS L.

1343. **L. maritimus** (L.) Bigel. Beach Pea. All around the Great Lakes, but seldom seen in the interior. Shore of Higgins Lake, G. H. Cannon. Th.

1344. **L. myrtifolius** Muhl. Myrtle-leaved Marsh Pea. *L. palustris myrtifolius* A. Gray. Infrequent. Th.

*1345. **L. ochroleucus** Hooker. Hillsides and dry uplands. Keweenaw Co., O. A. Farwell; Alma, and southward. Infrequent. Th.

*1346. **L. palustris** L. Ann Arbor; Ionia; Bay City, Antrim Co.; Alma; Petoskey to L. Sup. Th.

1347. **L. venosus** Muhl. Ionia Co.; Clinton Co.; Flint; Macomb Co.; Ann Arbor; Vestaburg. Northward to Keweenaw Co., O. A. Farwell. Infrequent. Th.

FALCATA Gmel. AMPHICARPAEA Ell.

*1348. **F. comosa** (L.) Kuntze. Hog Pea-nut. *Amphicarpaea monoica* Ell. Fields and woods. Common. Th.

*1349. **F. Pitcheri** (T. & G.) Kuntze. Pitcher's Hog Pea-nut. *Amphicarpaea Pitcheri* T. & G. Moist woodlands. Hubbardston, C. F. Wheeler; Lenawee Co., W. J. B.; Manistee, F. P. Daniels; Alma, Whitmore Lake, C. A. Davis.

APIOS Moench.

*1350. **Apios Apios** (L.) MacM. Ground-nut. *A. tuberosa* Moench. Common. C. & S.

GERANIACEÆ J. St. Hil. Geranium Family.

GERANIUM L.

1351. **G. Bicknellii** Britton. Bicknell's Crane's-bill. Thunder Bay Island. Alpena Co., C. F. Wheeler; Keweenaw Co., O. A. Farwell.

*1352. **G. Carolinianum** L. Carolina Crane's-bill. Macomb Co.; Clinton Co.; Alma. Rare in S. & C., abundant in vicinity of Farwell, Clare Co., thence N. to L. Superior. Th.

1353. **G. columbinum** L. Long-stalked Crane's-bill. Grand Detour, T. C. Porter.

*1354. **G. maculatum** L. Wild Crane's-bill. Canada to Florida. T. & G. Common. C. & S.

1355. **G. molle** L. Harbor Springs, Hon. G. L. Maurice.

*1356. **G. pusillum** Burm. f. Small-flowered Crane's-bill. Flint, Dr. Clark; Benzie Co., W. J. B.; Constantine, C. F. Wheeler; St. Clair Co., C. K. Dodge; Ann Arbor, C. A. Davis. Adventive.

1357. **G. Robertianum** L. Herb Robert. Put-in-Bay, Lake Erie; Montcalm Co.; Saginaw Bay; Mackinac, and Drummond's Is., Winch. Cat.; L. Sup. Whitney's Cat.; Keweenaw Co., O. A. Farwell; Island near Algonac, C. K. Dodge. Common around the Great Lakes, but seldom seen in the interior.

1358. **G rotundifolium** L. Round-leaved Crane's-bill. Britton & Brown.

ERODIUM L'Her.

1359. **E. cicutarium** (L.) L'Her. Stork's-bill. Alfilarilla. Oceana Co.; Ionia Co.; Kalamazoo; Port Huron, C. K. Dodge. Not yet common.

OXALIDACEÆ Lindl. Wood-Sorrel Family.

OXALIS L.

1360. **O. Acetosella** L. Common Wood-sorrel. Macomb Co.; L. Sup. and northward, A. Gray. Rare in S. Peninsula. Th.

1361. **O. corniculata** L. Rochester, O. A. Farwell.

1362. **O. cymosa** Small. Tall Yellow Wood-sorrel. Marquette Co., Burt's MS., Rochester, O. A. Farwell. Southward. Common.

*1363. **O. stricta** L. Upright Yellow Wood-sorrel. Marquette southward. Common.

1364. **O. violacea** L. Violet Wood-sorrel. Winchell Cat.; S. W., H. S. Pepoon. Rare. S. E.

LINACEÆ Dumort. Flax Family.

LINUM L.

1365. **L. humule** Mill. Belle Isle, rare, O. A. Farwell.

1366. **L. medium** (Planch.) Britton. Port Huron, C. K. Dodge; Belle Isle, O. A. Farwell.

1367. **L. striatum** Walt. Ridged Yellow Flax. S. W., H. S. Pepoon.

1368. **L. sulcatum** Riddell. Grooved Yellow Flax. Dr. Wright; University Herb. Rare. S.

1369. **L. usitatissimum** L. Common Flax. Dr. Clark, and Dr. Wright; Keweenaw Co., O. A. Farwell; Alma, C. A. Davis. Escaped from cultivation. Infrequent.

*1370. **L. Virginianum** L. Wild Yellow Flax. Ann Arbor, Dr. Lyons; S. Mich., Wright Cat.; Lenawee Co., G. F. Comstock. Infrequent. S.

RUTACEÆ Juss. Rue Family.

XANTHOXYLUM L.

*1371. **X. Americanum** Mill. Northern Prickly Ash. Toothache-tree. Everywhere along streams and on low ground. L. P.

PTELEA L.

*1372. **P. trifoliata** L. Hop-tree Shrubby Trefoil. Very abundant on the low, rocky islands in the western end of Lake Erie, and frequent along river banks and the shore of the Great Lakes. Occurs in the interior as far north as Montcalm Co. Does not occur at Flint, and is not mentioned in Dr. Cooley's MS. Cat., but is given in Dr. Wright. Alma, Ann Arbor, C. A. Davis. C. & S.

SIMARUBACEÆ DC. Ailanthus Family.

AILANTHUS Desf.

1373. **A. glandulosa** Desf. Tree-of-Heaven. Port Huron, C. K. Dodge; Detroit, O. A. Farwell.

POLYGALACEÆ Reichenb. Milkwort Family.

POLYGALA L.

1374. **P. ambigua** Nutt. Loose-spiked Milkwort. *P. verticillata ambigua* Wood. Ypsilanti, Mrs. Lucy Osband; Port Huron, C. K. Dodge.

1375. **P. cruciata** L. S. Mich., Wright Cat. Rare. S.

1376. **P. incarnata** L. Pink Milkwort. Port Huron, Walpole Island, C. K. Dodge. Rare.

*1377. **P. paucifolia** Willd. Flowering Wintergreen. Fringed Polygala. Common on pine land. Th.

*1378. **P. polygama** Walt. Sandy soil. Ionia, Clinton and Montcalm Counties; Grass Lake, Vestaburg, C. A. Davis. Southward. Abundant near Quinnesec, Menominee Co., E. J. Hill. Th.

*1379. **P. Senega** L. Seneca Snakeroot. Alma, C. A. Davis; Bay Co., G. M. Bradford; near Detroit, O. A. Farwell. Th.

1380. **P. Senega latifolia** Torr. & Gray. Hubbardston; Flint; Ann Arbor, C. A. Davis. Rare. Th.

*1381. **P. verticillata** L. Whorled Milkwort. Flint; Macomb Co.; Wayne Co. Common in some places, rare in others.

*1382. **P. viridescens** L. Purple Milkwort. *P. sanguinea* L. Belding; Ionia; Flint; Macomb Co.; Grass Lake, Whitmore Lake, C. A. Davis. Local, but usually abundant when found at all. C. & S.

EUPHORBIACEÆ J. St. Hil. Spurge Family.

ACALYPHA L.

1383. **A. gracilens** A. Gray. Slender Three-seeded Mercury. *A. Virginica gracilens* Muell. Detroit, Dr. D. Clark.

*1384. **A. Virginica** L. Three-seeded Mercury. Open woods. Variable. Common. Th.

EUPHORBIA L.

1385. **E. commutata** Engelm. Tinted Spurge. Ann Arbor, C. A. Davis; Flint. Infrequent.

*1386. **E. corollata** L. Flowering Spurge. Sandy soil. Frequent. C. & S.

*1387. **E. Cyparissias** L. Cypress Spurge. Escaped from cultivation. Frequent.

*1388. **E. Esula** L. Leafly Spurge. Escaped from cultivation.

1389. **E. glyptosperma** Engelm. Ridge-seeded Spurge. Escanaba, Marquette, C. F. Wheeler.

1390. **E. Helioscopia** L. Sun Spurge. Common at Detroit, Dr. A. B. Lyons; St. Clair Co., C. K. Dodge; Mackinac Island, O. A. Farwell.

1391. **E. hirsuta** (Torr.) Weigand. Hairy Spurge. *E. hypericifolia hirsuta* Torr. Clair Co., C. K. Dodge; Mackinac Island, O. A. Farwell.

1392. **E. humistrata** Engelm. Hairy Spreading Spurge. Flint, Dr. D. Clark; St. Clair Co., C. K. Dodge; Bay Co., G. M. Bradford.

*1393. **E. maculata** L. Spotted Spurge. Roadsides and fields, everywhere.

1394. **E. Nicaeensis** All. Nicaean Spurge. Port Huron, C. K. Dodge

*1395. **E. nutans** Lag. Upright Spotted Spurge. *E. Preslii* Guss. Cultivated soil, and waste places. Detroit, Dr. A. B. Lyons; Ionia; Grand Rapids. Infrequent. C. & S.

*1396. **E. obtusata** Pursh. Belle Isle, rare. O. A. Farwell.

*1397. **E. Peplus** L. Petty Spurge. Grand Rapids, H. C. Skeels; Olivet, H. L. Clark.

1398. **E. platyphylla** L. Broad-leaved Spurge. Macomb Co.; "along the Great Lakes," A. Gray; Lake Huron, Dr. Todd.

1399. **E. polygonifolia** L. Knotweed Spurge. Sandy shores of the Great Lakes. South Haven, L. H. Bailey; Fort Gratiot. Winch. Cat.; Roscommon and Ann Arbor, C. A. Davis. Frequent. Th.

1400. **E. serpyllifolia** Pers. Thyme-leaved Spurge. Keweenaw Co., O. A. Farwell.

CALLITRICHACEÆ Lindl. Water-Starwort Family.

CALLITRICHE L.

1401. **C. bifida** (L.) Morong. Northern Water Starwort. *C. autumnalis* L. Flint, Dr. Clark; L. Superior, A. Gray; Alma, C. A. Davis; Sault de Ste. Marie, T. Morong.

1402. **C. palustris** L. Water Starwort. Water Fennel. *C. verna* L. Ponds, Macomb Co., Cooley; Keweenaw Co., O. A. Farwell; Norway, E. J. Hill; Alma, C. A. Davis.

EMPETRACEÆ Dumort. Crowberry Family.

EMPETRUM L.

1403. E. nigrum L. Black Crowberry. Whitney Cat. Pictured Rocks, G. H. Hicks. U. P.

LIMMANTHACEÆ Lindl. False Mermaid Family.

FLOERKEA Willd.

*1404. F. proserpinacoides Willd. False Mermaid. Ionia; Hubbardston; Flint; Ann Arbor, C. A. Davis. Not rare but usually overlooked.

ANACARDIACEÆ Lindl. Sumac Family.

RHUS L.

1405. R. aromatica Ait. Fragrant Sumach. *R. Canadensis* Marsh. Less frequent than other members of the genus. Found chiefly on bluffs and sandy hills through the middle counties of the L. P. "N. to the Saskatchawan," Torr. & Gr.; Saginaw Co., Washtenaw Co., C. A. Davis. Th.

*1406. R. copallina L. Dwarf Sumach. Abundant in the pine country on light soil. C. & S.

*1407. R. glabra L. Smooth Sumach. Alma, Ann Arbor, C. A. Davis. Very common in C. Th.

1407a. R. glabra borealis Britton. Keweenaw Co., O. A. Farwell.

*1408. R. hirta (L.) Sudw. Staghorn Sumach. *R. typhina* L. Alma, Ann Arbor, C. A. Davis.

1409. R. pubescens (Mill) O. A. F. Northern Poison Oak. *R. Toxicodendron quercifolia* Michx. Belle Isle, O. A. Farwell.

*1410. R. radicans L. Poison, climbing or Three-leaved Ivy. Poison Oak. L. P.

1411. R. Rydbergii Small. Keweenaw Co., O. A. Farwell.

*1412. R Toxicodendron L. Tall-climbing, often to tops of forest trees; stems occasionally several inches in diameter. Th.

*1413. R. Vernix L. Poison Sumach. Poison Elder. *R. venenata* DC. Common in swamps. Green Lake, G. Traverse Co. and southward. L. P.

ILICACEÆ Lowe. Holly Family.

ILEX L.

*1414. I. verticillata (L.) A. Gray. Black Alder. Winterberry. Low grounds. Th.

ILICIOIDES Dumont. NEMOPANTHES Raf.

*1415. I. mucronata (L.) Britton. Mountain Holly. *Nemopanthes fascicularis* Raf. Borders of swamps. S. Mich., Wright Cat.; Ionia Co.; Alma, Ann Arbor, C. A. Davis; Montcalm Co.; Flint; Macomb Co., and northward. Frequent. Th.

CELASTRACEÆ Lindl. Staff-tree Family.

EUONYMUS L.

*1416. E. atropurpureus Jacq. Wahoo. Burning Bush. Low river banks. Well distributed, but nowhere very common. C. & S.

*1417. E. obovatus Nutt. Strawberry Bush. *E. Americanus obobatus* T. & G. Trailing. Common. C. & S.

CELASTRUS L.

*1418. C. scandens L. Wax-work. Climbing Bittersweet. Frequent. Th.

STAPHYLEACEÆ DC. Bladder-nut Family.

STAPHYLEA L.

*1419. **S. trifolia** L. American Bladder-nut. Marquette Co., and southward, Burt. Frequent along river banks in L. P. Th.

ACERACEÆ J. St. Hil. Maple Family.

ACER L.

*1420. **A. Negundo** L. Box Elder. Ash-leaved Maple. Th. *Negundo aceroides* Moench. River banks. A small tree. West of Lake Superior, and north to Saskatchewan Valley. Macoun in Candian Cat. Frequent in Grand River Valley; escaped from cultivation in St. Clair Co., C. K. Dodge; Belle Isle, Alma, Ann Arbor, C. A. Davis. Th.

*1420a. **A. nigrum** Michx. Black Sugar Maple. *A. saccharinum nigrum* T. & G. Common. C. & S.

1421. **A. Pennsylvanicum** L. Striped Maple. Abundant in U. P. Whitney; common at Petoskey, and occasional as far S. on the Huron shore as Alcona Co., Winchell Cat.; in the interior as far as Houghton Lake. N. & U. P.

1422. **A. platanoides** L. Norway Maple. Banks of Huron River, Ypsilanti, O. A. Farwell. Introduced from Europe.

*1424. **A. rubrum** L. Red or Swamp Maple. On low ground and along streams. Very common. Th.

*1425. **A. saccharinum** L. Silver Maple. *A. dasycarpum* Ehrh. Low ground along rivers. Common. C. & S.

*1426. **A. Saccharum** Marsh. Rock or Sugar Maple. *A. saccharinum* Wang. Frequent in the U. P., and abundant in the lower, forming extensive groves, either alone or in connection with beech. Th.

*1427. **A. spictatum** Lam. Mountain Maple. Common in U. P.; Alcona Co., Winch. Cat.; Crystal Lake, Montcalm Co.; Alma, C. N. & U. P.

HIPPOCASTANACEÆ T. & G. Buckeye Family.

ÆSCULUS L.

1428. **AE. glabra** Willd. Ohio Buckeye. Fetid B. Lenawee Co., W. J. B.; Washtenaw Co., O. A. Farwell, and probably in other localities in the southern tier of counties. S

1429. **AE. Hippocastenum** L. Horse-chestnut. Escaped from cultivation. St. Clair Co., C. K. Dodge; Washtenaw and Wayne counties, O. A. Farwell.

BALSAMINACEÆ Lindl. Jewel-weed Family.

IMPATIENS L.

*1430. **I. aurea** Muhl. Pale Touch-me-not. *I. pallida* Nutt. Macomb Co.; Ionia Co.; Sugar Is., Winch. Cat.; Ann Arbor, C. A. Davis. Much rarer than the next. Th.

*1431. **I. biflora** Walt. Spotted Touch-me-not. *I. fulva* Nutt. Keweenaw Co., O. A. Farwell; Alma, Ann Arbor, C. A. Davis. Southward.

RHAMNACEÆ Dumort. Buckthorn Family.

RHAMNUS L.

*1432. **R. alnifolia** L'Her. Alma, Ann Arbor, C. A. Davis. Common. Th.

*1433. **R. cathartica** L. Buckthorn. Escaped from cultivation. Lansing, and very likely in other portions of the state.

CEANOTHUS L.

*1434. C. Americanus L. New Jersey Tea. Red-root. Sandy woods, rarely on beech and maple land. Alma, Ann Arbor, C. A. Davis. Frequent.

1435. C. ovatus Desf. Smaller Red-root. East shore L. Huron, E. Ont. and L. Sup., Can. Cat.; Cheboygan Co., B. & K.; Alcona Co.; Grayling; Oscoda; Manistee, F. P. Daniels.

VITACEÆ Lindl. Grape Family.

VITIS L.

1436. V. aestivalis Michx. Summer Grape. Sturgis, F. P. Daniels.

*1437. V. bicolor Le Conte. Winter Grape. Lyons; Stanton; Crystal Lake; Montcalm Co.; Flint; Ann Arbor, Winch. Cat.; Bay Co., G. M. Bradford; S. Mich., Wright Cat. Infrequent. C. & S.

1438. V. cordifolia Michx. Frost Grape. Sturgis, F. P. Daniels.

*1439. V. Labrusca L. Northern Fox-grape. Muskegon, W. J. B.

1440. V. rotundifolia Michx. Rochester, O. A. Farwell.

*1441. V. vulpina L. Riverside Grape. *riparia* Michx. Sturgis, F. P. Daniels. Common along our rivers; infrequent in the pine region, where V. bicolor is very abundant. Th.

PARTHENOCISSUS Planch.

*1442. P. quinquefolia (L.) Planch. Virginia Creeper. American Ivy. *Ampelopsis quinquefolia* Michx. Common. Th.

1443. P. quinquefolia laciniata (Planch.) *R. vitacea* A. S. Hitchcock. Frequent.

1444. P. quinquefolia hirsuta (Donn.) Torr. & Gray. Bald-head Park, Saugatuck, C. F. Wheeler; Belle Isle, O. A. Farwell.

TILIACEÆ Juss. Linden Family.

TILIA L.

*1445. T. Americana L. Basswood. Linden. Abundant in C. & S., common in Emmet Co., and frequent in U. P., "especially in Ontonagon Valley," Whitney Cat. Th.

MALVACEÆ Neck. Mallow Family.

ALTHAEA L.

1446. A. officinalis L. Marsh-Mallow. Bay Co., G. M. Bradford; Detroit, O. A. Farwell.

MALVA L.

*1447. M. Alcea L. European Mallow. Adventive at the Agricultural College; Manistee, F. P. Daniels.

*1447a. M. crispa L. Curled Mallow. *M. verticillata crispa* L. Flint, Dr. Clark; Detroit, O. A. Farwell.

*1448. M. moschata L. Musk Mallow. Keweenaw Co., O. A. Farwell; Alma, C. A. Davis. Southward. Not rare.

*1449. M. rotundifolia L. Common Mallow. Keweenaw Co., O. A. Farwell; Alma, Ann Arbor, C. A. Davis. Southward. Common. Th.

*1450. M. sylvestris L. High Mallow. Occasional. L. P.

SIDA L.

1452. S. hermaphrodita (L.) Rusby. Virginia Mallow. *S. Napaea* Cav. Kalamazoo, R. R. track, Tuthill. Rare. S.

1453. S. spinosa L. Prickly Sida. Britton and Brown.

ABUTILON Gaertn.

*1454. **A. Abutilon** (L.) Rusby. Velvet-leaf. *A. Avicennae* Gaert. Roadsides and river banks. Very common in places, and, along with Datura Stramonium, forming regular thickets. Alma, Ann Arbor, C. A. Davis. C. & S.

HIBISCUS L.

1455. **H. Moscheutos** L. Swamp Rose-mallow. Monroe; Flint; Put-in-Bay, Lake Erie; St. Joseph, V. Willoughby; Detroit, D. H. Campbell; Saugatuck, Tuthill. Rare. C. & S.

*1456. **H. Trionum** L. Bladder Ketmia. South, Dr. Wright; Ann Arbor, Winch. Cat.; Flint; Ypsilanti, O. A. Farwell; Alma, Ann Arbor, C. A. Davis. Rare.

HYPERICACEÆ Lindl. St. John's-wort Family.

HYPERICUM L.

1457. H. Ascyron L. Great St. John's Wort. South Haven; Ann Arbor; Ft. Gratiot; Macomb Co.; Ionia; Stanton; Hubbardston; Alma; Crystal Lake; Flint; Ontonagon River, Whitney Cat.; Grand Rapids, Sones; Keweenaw Co., O. A. Farwell. Occurs at wide intervals and in small patches. Th.

1458. **H. boreale** (Britton) Bicknell. *H. Canadense boreale* Britton. Keweenaw Co., O. A. Farwell.

*1459. **H. Canadense** L. Canadian St. John's-wort. Ann Arbor, Miss Clark; L. Sup., A. Gray; Keweenaw Co., O. A. Farwell; Carp River, Porter; Alma. Infrequent.

1460. **H. ellipticum** Hook. Ann Arbor, Miss Clark; Keweenaw Co., O. A. Farwell; Carp River, T. C. Porter. Infrequent.

1461. **H. Kalmianum** L. Kalm's St. John's-wort. Along the lakes; more common northward. Manistee, F. P. Daniels; Fort Gratiot, Winch. Cat.; Petoskey; Port Austin, C. A. Davis; S. W., H. S. Pepoon. Th.

*1462. **H. maculatum** Walt. Spotted St. John's-wort. Common. Th.

*1463. **H. majus** (A. Gray) Britton. Larger Canadian St. John's-wort. *H. Canadense majus* A. Gray. St. Clair Co., Foerste; Flint; Fruitport and Old Mission, E. J. Hill; L. Sup., A. Gray, Vestaburg. Th.

*1464. **H. mutilum** L. Dwarf St. John's-wort. Common. Th.

*1465. **H. perforatum** L. Common St. John's-wort. Ionia; Flint; Keweenaw Co., O. A. Farwell. Infrequent.

*1466. **H. prolificum** L. Shrubby St. J. A low, compact shrub. Frequent from C. Southward. Th.

SAROTHRA L.

1467. **S. gentianoides** L. Pine-weed. *Hypericum nudicaule* Walt. Ypsilanti. O. A. Farwell.

TRIADENUM Raf. ELODEA Pursh, not Michx.

*1468. **T. Virginicum** (L.) Raf. Marsh St. John's-wort. *Elodea campanulata* Pursh. Common. Th.

CISTACEÆ Lindl. Rock-rose Family.

HELIANTHEMUM Pers.

*1469. **H. Canadense** (L.) Michx. Frost-weed. Frequent. Th.

1470. **H. majus** (L.) B. S. P. Hoary Frost-weed. Vestaburg, Davis and Wheeler; Muskegon, W. J. B.; Fife Lake, Alpena, C. F. Wheeler; Detroit, O. A. Farwell.

HUDSONIA L.

1471. **H. tomentosa** Nutt. False Heather. Shores of Great Lakes, A. Gray; S. Mich., Winch. Cat.; L. Sup., Can. Cat.; Oscoda. Frequent. Th.

LECHEA L.

1472. **L. intermedia** Leggett. Large-podded Pin-weed. Port Huron, C. K. Dodge; Bay Co., G. M. Bradford.

1473. **L. minor** L. Thyme-leaved Pin-weed. Pointe aux Pins, Lake Superior, Dawson; Au Sable, W. J. B.; St. Clair Co., C. K. Dodge.

1474. **L. stricta** Leggett. Prairie Pin-weed. Lower falls of the Menominee River, C. F. Wheeler.

*1475. **L. villosa** Ell. Hairy Pin-weed. *L. major* Michx. Common on poor soil. C. & S.

VIOLACEÆ DC. Violet Family.

VIOLA L.

*1477. **V. arenaria** D C. Sand Violet. Sandy land. Crawford Co., W. J. B.

*1478. **V. blanda** Willd. Sweet White Violet. Low ground. Common and variable. Th.

*1479. **V. Canadensis** L. Canada Violet. Abundant on beech and maple land, but seldom, or never found under oaks. Th.

*1479a. **V. cuculata** Ait. Marsh Blue Violet. *V. affinis* Le Conte. *V. obliqua* Hill. Very common. Th.

1479a. **V. crassula** Greene. Near Jackson. E. L. Greene.

1480. **V. cuspidata** Greene. Utica in Macomb Co., W. S. Cooper.

1481. **V. emarginata** (Nutt.) Le Conte. Triangle-leaved Violet. Munith, G. H. Hicks; Muskegon, W. J. B.; Detroit, O. A. Farwell.

1482. **V. fimbriatula** J. E. Smith. *V. orata* Nutt. S. W., H. S. Pepoon. Very rare. Ann Arbor, Grand Rapids, C. F. Wheeler; Bay City, G. M. Bradford; Detroit, O. A. Farwell.

*1483. **V. Labradorica** Schrank. American Dog Violet. *V. canina Muhlenbergii* Traut. Common. Th.

1484. **V. lanceolata** L. Lance-leaved Violet. W. Harrisville, Glade Pt.; Kalkaska Co.; Roscommon Co.; L. Sup.; Belle Isle, O. A. Farwell; Vestaburg, C. A. Davis.

1484a. **V. Le Conteana** Don. *V. blanda amœna* (Le Conte) B. S. P. Towar's swamp, near Lansing; Cheboygan Co., B. & K.; shores of Barron Lake, Cass Co.; Keweenaw Co., O. A. Farwell.

1484a. **V. nodosa** Green. Marengo, Mich. E. L. Greene.

*1485. **V. palmata** L. Early Blue Violet. Dry to moist woods. Ann Arbor, C. A. Davis.

1485a. **V. papilionacea** Pk. Hooded Blue Violet. Very common.

*1486. **V. pedata** L. Bird-foot Violet. Common on light sand; our finest species N. to British Am.; lat. 55°. Torr. & Gr., Fl. N. Am. Th.

1486a. **V. peramoena** Greene. Marengo. E. L. Greene.

*1487. **V. pubescens** Aiton. Downy Yellow Violet. Beech woods. Common. Th.

*1488. **V. pubescens eriocarpa** (Schw.) Nutt. Detroit, O. A. Farwell.

*1489. **V. renifolia** A. Gray. Kidney-leaved Violet. *V. blanda renifolia* A. Gray. Cheboygan Co., B. & K.; Keweenaw Co., O. A. Farwell, Gratiot Co., C. A. Davis.

*1490. **V. rostrata** Pursh. Long-spurred Violet. Well distributed and frequent. Alma, Ann Arbor, C. A. Davis. C. & S.

1491. **V. rotundifolia** Michx. Round-leaved Violet. Sugar Island, Winch. Cat.; Michigan, A. Gray. U. P.

1492. **V. sagittata** Aiton. Arrow-leaved Violet. Rare in some sections, common in others. Howard City and Baldwin, W. J. B.; Keweenaw Co., O. A. Farwell. Th.

*1493. **V. scabriuscula** (T. & G.) Schwein. Smoothish Yellow Violet. *V. pubescens scabriuscula* T. & G. Frequent.

1494. **V. Selkirkii** Pursh. Great-spurred Violet. Gillman; A. Gray; Keweenaw Co., O. A. Farwell. U. P.

1495. **V. septentrionalis** Greene. S. W., H. S. Pepoon.

1496. **V. sororia** Willd. Belle Isle, O. A. Farwell.

*1497. **V. striata** Aiton. Pale Violet. Keweenaw Co., O. A. Farwell; Alma, Ann Arbor, C. A. Davis. Southward. Common. Th.

1498. **V. Rafinesqueii** Greene. Field Pansy *V. tenella* Muhl. Croswell, W. W. Wier; Detroit, O. A. Farwell.

1499. **V. tricolor** L. Pansy. Heart's-ease. Keweenaw Co., O. A. Farwell.

1500. **V. villosa** Walt. Keweenaw Co., O. A. Farwell.

CALCEOLARIA Loefl. SOLEA Spreng. IONIDIUM Vent.

*1501. C. verticillata (Ort.) Kuntze. Nodding Violet. Green Violet. *Solea concolor* Ging. Hubbardston; Ann Arbor, Allm. Cat. Scarce and local. Near Grand Rapids, Miss E. J. Cole. C. & S.

CACTACEÆ Lindl. Cactus Family.

OPUNTIA Mill.

1502. O. humifusa Raf. Western Prickly Pear. *O. Rafinesquii* Engelm. Common in Newaygo Co. along the Muskegon River, Cedar Creek Tp., Muskegon Co., C. F. Wheeler; and a stunted variety on sand barrens near Greenville, J. Satterlee; also, northward into British Am., Engelmann.

THYMELEACEÆ Reichenb. Mezereon Family.

DIRCA L.

*1503. D. palustris L. Leather-wood. Moose-wood. Woods. The tough bark used for thongs by Indians. Ann Arbor, Winch. Cat.; South Haven, L. H. Bailey; Alma, C. A. Davis, and northward. Frequent. Th.

ELAEAGNACEÆ Lindl. Oleaster Family.

LEPARGYRAEA Raf. SHEPHERDIA Nutt.

*1504. L. Canadensis (L.) Greene. Canadian Buffalo-berry. *Shepherdia Canadensis* Nutt. Gravelly banks. "On the western islands in Lake Erie," Dr. D. Cooley; Ann Arbor, Winch. Cat.; South Haven, L. H. Bailey; Flint, and northward. Abundant at Petoskey. A common short shrub, L. Superior, Whitney Cat.; Benton Harbor, C. F. Wheeler. Th.

LYTHRACEÆ Lindl. Loosestrife Family.

DECODON Gmelin.

*1505. D. verticillatus (L.) Ell. Swamp Loosestrife. Crystal Lake, Montcalm Co.; Flint; Birmingham, Oakland Co.; South Haven; Orion; Grass Lake; Fife Lake, farthest station north known. Infrequent. L. P.

LYTHRUM L.

1506. L. alatum Pursh. Near Detroit, Cooley MS., O. A. Farwell; S. Mich., Wright Cat.; Kalamazoo, Tuthill; Bay, Tuscola and Huron Counties, C. A. Davis. Malden, Detroit River,—Maclagan Canadian Cat. O. A. Farwell

1507. L. Salicaria L. Purple Loosestrife. Detroit to Bay City, Port Huron, C. K. Dodge.

MELASTOMACEÆ R. Br. Meadow-Beauty Family.

RHEXIA L.

1508. R. Virginica L. Deer-grass. Muskegon, C. D. McLouth; S. W., H. S. Pepoon.

ONAGRACEÆ Dumort. Evening-primrose Family.

ISNARDIA L. LUDWIGIA L., in part.

1509. I. palustris L. Marsh Purslane. *Ludwigia palustris* Ell. Water Purslane. Common. L. P.

LUDWIGIA L.

1510. **L. alternifolia** L. Seed-box. Dr. Wright; near Detroit. Dr. Cooley; near Algonac, C. K. Dodge; S. W., H. S. Pepoon. S. W.
1511. **L. polycarpa** Short & Peter. Dr. Pitcher and Dr. Clark. St. Clair Co., A. F. Foerste, C. K. Dodge. C. & S.

CHAMAENERION Adans. EPILOBIUM L., in part.

*1512. **C. angustifolium** (L) Scop. Great Willow-herb. *Epilobium spicatum.* Lam. *E. angustifolium* L. Great Willow Herb Fire-weed. Springs up abundantly where forests have been burned over, hence one common name.
1512a. **C. angustifolium canescens** (Wood.) Trelease. Keweenaw Co., O. A. Farwell.

EPILOBIUM L.

1513. **E. adenocaulon** Haussk. Northern Willow-herb. Trelease. Revision of Epilobium, p. 95. Keweenaw Co., O. A. Farwell. Frequent.
*1514. **E. coloratum** Muhl. Purple-leaved Willow-herb. Common. Th.
1515. **E. Hornemanii** Reichenb. Hornman's Willow-herb. Upper Wisconsin and Michigan. A. Gray. U. P.
*1516. **E. lineare** Muhl. Linear-leaved Willow-herb. Hubbardston; Flint; Alma; Stanton, and north to L. Sup. Infrequent in C. and rare or not at all in S.
1517. **E. palustre** L. Marsh Willow-herb. Frequent in swamps.
1518. **E. paniculatum** Nutt. Panicled Willow-herb. Britton and Brown.
*1519. **E. strictum** Muhl. Soft Willow-herb. Hubbardston; Flint; Ann Arbor; Macomb Co., Alma; northward to Keweenaw Co., O. A. Farwell. Frequent.

ONAGRA Adans. ŒNOTHERA L., in part.

*1520. **O. biennis** (L.) Scop. Common Evening Primrose. *Oenothera biennis* L. Common. Th.
1521. **O. Oakesiana** (A. Gray.) Britton. Oakes Evening Primrose. *Oenothera biennis Oakesiana* A. Gray. Shores of the Great Lakes.

OENOTHERA L.

1522. **O. laciniata** Hill. *O. sinuata* L. Detroit, O. A. Farwell. Rare.
1523. **O. rhombipetala** Nutt. S. W., H. S. Pepoon.

KNEIFFIA Spach. ŒNOTHERA L., in part.

1524. **K. fruticosa** (L.) Raimann. Common Sundrops. *Oenothera fruticosa* L. Palo, Ionia Co.; Flint; Macomb Co.; Ann Arbor, Allmend. Cat.; Keweenaw Co., O. A. Farwell. Th.
1525. **K. pumila** (L.) Spach. Small Sundrop. *Oenothera pumila* L. Ontonagon Falls, Whitney Cat.; So. Mich., Wr. Cat.; Oscoda, shore Lake Huron. Infrequent. Th.

HARTMANNIA Spach. ŒNOTHERA L., in part.

1526. **H. speciosa** (Nutt.) Small. Showy Primrose. Bay City, G. M. Bradford.

GAURA L.

1527. **G. biennis** L. Biennial Gaura. Dr. Wright. Malden, Ont., Maclagan, Canadian Catalogue. Detroit, O. A. Farwell.
1528. **G. coccinea** Pursh. Scarlet Gaura. White Pigeon. W. J. B.

CIRCAEA L.

*1529. **C. alpina** L. Smaller Enchanter's Nightshade. Woods. Common. Th.
*1530. **C. Lutetiana** L. Enchanter's Nightshade. Woods. Very common. Th.

HALORAGIDACEÆ Kl. & Garcke. Water-Milfoil Family.

HIPPURIS L.

1531. **H. vulgaris** L. Mare's tail. L. Sup., Can. Cat.; S. Mich., Wright Cat.; Keweenaw Co., O. A. Farwell; Black River, Cheboygan Co., B. & K.; Escanaba, E. J. Hill. Rare. Th.

1532. **H. vulgaris fluviatilis** Hart. Keweenaw peninsula, Robbins; Indian River, Cheboygan Co., C. F. Wheeler.

PROSERPINACA L.

*1533. **P. palustris** L. Mermaid-Weed. In swamps along with Alopecurus aristulatus and Ludwigia palustris. Keweenaw Co., O. A. Farwell; Cheboygan Co., B. & K.; Ann Arbor, Huron, Tuscola, Alpena Counties, C. A. Davis.

MYRIOPHYLLUM L.

1534. **M. alterniflorum** DC. St. Clair River, W. S. Cooper; Bay Co., G. M. Bradford.

1535. **M. Farwellii** Morong. Farwell's Water-Milfoil. Keweenaw Co., O. A. Farwell.

1536. **M. heterophyllum** Michx. Loose-flowered Water-Milfoil. Fruitport, E. J. Hill; Huron R. at Ypsilanti, Lyons; Macomb Co., Cooley; Manistee, F. P. Daniels. Rare.

*1537. **M. spicatum** L. Spiked Water-Milfoil. Abundant. L. Sup., Can. Cat.; Black Lake, Cheboygan Co., B. & K.; Pine Lake, Ingham Co. Common. Th.

1538. **M. tenellum** Bigelow. Slender Water-Milfoil. Gray's Manual.

*1539. **M. verticillatum** L. Whorled Water-Milfoil. Hubbardston; Flint; Macomb Co.; S. Mich., Wright Cat. Common. L. P. Ann Arbor, Alma, C. A. Davis.

ARALIACEÆ Vent. Ginseng Family.

ARALIA L.

*1540. **A. hispida** Vent. Bristly Sarsaparilla. Wild Elder. In a peat bog near the Agricultural College; also on dry clay soil, lot 21, Collegeville, Ingham Co.; Washtenaw Co., Alma, C. A. Davis. Apparently not common south of the pine region.

*1541. **A. nudicaulis** L. Wild Sarsaparilla. Alma, Ann Arbor, C. A. Davis. Common. Th.

*1542. **A. racemosa** L. Spikenard. Cheboygan Co., B. & K.; Keweenaw Co., O. A. Farwell; Roscommon, Ann Arbor, C. A. Davis. Frequent. Th.

1543. **A. spinosa** L. Spreading from Detroit, O. A. Farwell.

PANAX L.

*1544. **P. quinquefolium** L. Ginseng. *Aralia quinquefolia* Decsne. & Planch. Sault Ste. Marie; Ludington; Stanton, formerly in great abundance; Hubbardston; Flint; Macomb Co.; southwest, Wright Cat. Th.

1545. **P. trifolium** L. Dwarf Ginseng or Ground-nut. *Aralia trifolia* Decsne. & Planch. Frequent northward to Keweenaw Co., O. A. Farwell. Th.

UNBELLIFERÆ B. Juss. Corrot Family.

DAUCUS L.

1546. **D. Carota** L. Wild Carrot. Keweenaw Co., O. A. Farwell; Ann Arbor, C. A. Davis; St. Clair Co., C. K. Dodge; near Grand Rapids, G. D. Sones.

ANGELICA L. ARCHANGELICA Hoffm.

*1547. **A. atropurpurea** L. Great-purple-stemmed Angelica. Alma, occasional in S., common in C. & N.; also L. Sup. Can. Cat. Th.

1548. **A. villosa** (Walt.) B. S. P. *A. hirsuta* Muhl. Emmet Co., Winch. Cat.; Pontiac; Detroit, Ann Arbor, C. A. Davis. Dry banks and open woods. Infrequent. L. P.

CONIOSELINUM Hoffm.

*1549. C. Chinense (L.) B. S. P. Hemlock Parsley. Ann Arbor, All. Cat.; Macomb Co.; Flint; Hubbardston and north, C. F. Wheeler. Infrequent. Th.

OXYPOLIS Raf. TIEDEMANNIA DC.

*1550. O. rigidus (L.) Britton. Cowbane. *Tiedemannia rigida* Coult. & Rose. Hubbardston; Ann Arbor, All. Cat. Not much N. of lat. 43. Infrequent. C. & S.

HERACLEUM L.

*1551. H. lanatum Michx. Low ground. Common. Th.

PASTINACA L.

*1552. P. sativa L. Wild Parsnip. Fields. Infrequent. Th.

IMPERATORIA L.

1553. I. Ostruthium L. Masterwort. Muskegon, C. D. McLouth.

POLYTAENIA DC.

1554. P. Nuttallii DC. Dr. Wright, also A. Gray. Rare. S.

FOENICULUM Adans.

1555. F. Foeniculum (L.) Karst. Fennel. Ballast grounds, Detroit, O. A. Farwell.

THASPIUM Nutt.

1556. T. barbinode (Michx.) Nutt. Hairy-jointed Meadow Parsnip. Jackson, S. H. Camp.

1557. T. trifoliatum (L.) Britton. Purple Meadow Parsnip. Confined to the two southern tiers of counties.

1558. T. trifoliatum aureum (Nutt.) Britton. Belle Isle, O. A. Farwell.

ERYNGIUM L.

1559. E. aquaticum L. Button Snakeroot. *E. yuccaefolium* Michx. White Pigeon, 1838, Dr. Wright, in University Herb; Sturgis, F. P. Daniels; S. W., H. S. Pepoon. Rare. S. W.

SANICULA L.

*1560. S. Canadensis L. Short-styled Snakeroot. *S. Marylandica Canadensis* Torr. Hubbardston; Flint; Ann Arbor; All. Cat.; Alma. Beech and maple woods. Infrequent. C. & S.

*1561. S. gregaria Bicknell. Clustered Snake-root. Alma, C. A. Davis; Agricultural College, C. F. Wheeler; Belle Isle, O. A. Farwell.

*1562. S. Marylandica L. Black Snake-root. Oak woods. Common. Th.

1563. S. trifoliata Bicknell. Large-fruited Snake-root. Alma, C. A. Davis and C. F. Wheeler.

TAENIDIA Drude. PIMPINELLA L., in part.

*1564. T. integerrima (L.) Drude. Yellow Pimpernel. *Pimpinella integerrima* A. Gray. Dry soil. Very abundant in Grand-Saginaw Valley. Th.

CHAEROPHYLLUM L.

*1565. C. procumbens (L.) Crantz. Spreading Chervil. Low woods. Frequent in Grand River Valley; Valley of the Raisin River near Dundee, C. F. Wheeler; Macomb Co. C. & S.

WASHINGTONIA Raf. OSMORRHIZA Raf.

*1566. **W. Claytoni** (Michx.) Britton. Woolly Sweet-cicely. *Osmorrhiza brevistylis* DC. The prevailing species, Winchell; probably true of counties along the Huron shore. Cheboygan Co., B. & K.; Keweenaw Co., O. A. Farwell; Alma, Ann Arbor, C. A. Davis. Common. Th.

*1567. **W. longistylis** (Torr.) Britton. Smoother Sweet-Cicely. *Osmorrhiza longistylis* DC. Alma, C. A. Davis; Bay Co., G. M. Bradford. Common. Th.

CONIUM L.

*1568. **C. maculatum** L. Poison Hemlock. St. Clair Co., C. K. Dodge. Infrequent in C. & S. Common at Mackinac, Winch. Cat.

SIUM L.

*1569. **S. cicutaefolium** Gmel. Water-Parsnip. Clinton Co.; S. Mich., Winch. Cat.; Alma, Ann Arbor, C. A. Davis. Frequent. Th.

ZIZIA Koch.

*1570. **Z. aurea** (L.) Koch. Golden Meadow-Parsnip. Low ground. Common. Th.

1571. **Z. cordata** (Walt.) DC. Heart-leaved Alexanders. Flint; Put-in-Bay and S. W., Dr. Wright; Barron Lake, Cass Co., C. F. Wheeler. Rare. C. & S.

CARUM L.

1572. **C Copticum** (L.) Benth. Ballast grounds. Detroit, O. A. Farwell.

*1573. **Carui** L. Caraway. Naturalized in many places.

CICUTA L.

*1574. **C. bulbifera** L. Bulb-bearing Water Hemlock. Swamps. Common. Th.

*1575. **C. maculata** L. Spotted Cowbane. Beaver Poison. Musquash Root. Th.

DERINGA Adans. CRYPTOTAENIA DC.

*1576. **D. Canadensis** (L.) Kuntze. Hornwort. *Cryptotaenia Canadensis* DC. Low woods. Common. C. & S.

BERULA Hoffm.

1577. **B. erecta** (Huds.) Coville. Cut-leaved Water Parsnip. *B. angustifolia* Mert. & Koch. Winchell, and A. Gray; Kalamazoo, Tuthill; Manistee, F. P. Daniels. Infrequent. S.

HYDROCOTYLE L.

*1578. **H. Americana** L. American Marsh-Pennywort. Common in C.; Alma, C. A. Davis. L. P.

*1579. **H. umbellata** L. Umbellate Marsh-Pennywort. Woodward Lake, Ionia Co.; S. Mich., Wright Cat.; Alma, C. A. Davis. Either grows on sandy shores or is wholly aquatic with floating leaves.

ERIGENIA Nutt.

*1580. **E. bulbosa** (Michx.) Nutt. Harbinger of Spring. Common. C. & S.

CORNACEÆ Link. Dogwood Family.

CORNUS L.

*1581. **C. alternifolia** L. f. Alternate-leaved Cornel. Banks. Frequent. The dead stems bright yellow. Keweenaw Co., O. A. Farwell. Rare in Cheboygan Co., B. & K.; Alma, Ann Arbor, C. A. Davis. Th.

*1582. **C. Amomum** Mill. Silky Cornel. Kinnikinnik. *C. sericea* L. Near Detroit, O. A. Farwell; Alma, Ann Arbor, C. A. Davis. Frequent. C. & S.

1583. **C. asperifolia** Michx. Rough-leaved Dogwood. Belle Isle, O. A. Farwell; Homer, C. F. Wheeler.

*1584. C. Baileyi Coulter & Evans. Bailey's Cornel. Petoskey, New Buffalo, C. F. Wheeler; abundant along E. shore of Lake Michigan on sand dunes, occasional in Cheboygan Co., B. & K.; Keweenaw Co., O. A. Farwell.

*1585. C. candidissima Mill. Panicled Cornel. Common. L. P.

*1586. C. Canadensis L. Dwarf Cornel. Bunch-berry. Rare south. Constantine, C. F. Wheeler; Ann Arbor, G. D. Sones. Northward very common. Th.

1587. C. circinata L'Her. Round-leaved Dogwood. Klinger Lake; Hubbardston to Cheboygan Co., B. & K.; Alma, Ann Arbor, C. A. Davis and northward to Keweenaw Co., O. A. Farwell. Infrequent. Th.

*1588. C. florida L. Flowering Dogwood. Frequent as far north as Grand-Saginaw Valley, usually as a low tree in oak woods. C. & S.

*1589. C. polygama Raf. *C. purpuri* Koehne. Bay Co., G. M. Bradford; Detroit, O. A. Farwell.

1590. C. stolonifera Michx. Red-osier. Dogwood. Marshes, borders of streams. Very common. Th.

NYSSA L.

*1591. N. sylvatica Marsh. Pepperidge. Tupelo. Sour-Gum Tree. Frequent. Alma, Ann Arbor, C. A. Davis; Manistee, F. P. Daniels. L. P. Edges of swamps. Frequent.

PYROLACEÆ Agardh. Wintergreen Family.

PYROLA L.

1592. P. asarifolia Michx. Liver-leaf Wintergreen. *P. rotundifolia asarifolia* Hook. The Cove, L. Huron, Winch. Cat.

1593. P. chlorantha Swartz. Greenish-flowered Wintergreen. Pine woods. Alma. Rare south of lat. 43. Frequent northward. C. N. & N. R. R.

*1594. P. elliptica Nutt. Shin-leaf. Rich woods. Ann Arbor; Ionia Co.; northward to L. Superior. Common. Th.

1595. P. minor L. Lesser Wintergreen. Cold woods, L. Superior, A. Gray. L. P.

*1596. P. rotundifolia L. Round-leaved Wintergreen. Dry oak woods. Common. Th.

*1597. P. secunda L. One-sided Wintergreen. Rich woods. Common. Th. *P. secunda pumila* A. Gray. Grayling, G. H. Hicks; Oscoda; Cheboygan Co., B. & K.; Escanaba, E. J. Hill; Keweenaw Co., O. A. Farwell.

1598. P. uliginosa Torr. Bog Wintergreen. *P. rotundifolia uliginosa* A. Gray. L. Superior, Prof. J. Macoun; Quinnesec, E. J. Hill; Livingston Co., Alma, C. A. Davis; Keweenaw Co., O. A. Farwell; Cheboygan Co., Beardslee.

MONESES Salisb.

1599. M. uniflora (L.) A. Gray. One-flowered Wintergreen. *M. grahdiflora.* S. F. Gray. Pine forests. Montcalm Co.; Flint.; Indian River, Wheeler; Clarkston, G. H. Hicks; Fort Gratiot, Winch. Cat.; cedar swamps, Cheboygan Co., B. & K.; Keweenaw Co., O. A. Farwell; Escanaba, E. J. Hill. Rare. Th.

CHIMAPHILA Pursh.

1600. C. maculata (L.) Pursh. Spotted Wintergreen. Oak woods. Ionia: Bangor and South Haven, Van Buren Co.; Flint. Rare or local.

*1601. C. umbellata (L.) Nutt. Pipsissewa. Prince's Pine. Pine woods. Common. Th.

MONOTROPACEÆ Lindl. Indian-pipe Family.

PTEROSPORA Nutt.

1602. P. Andromedea Nutt. Giant Bird's-nest. Pine Drops. Sitting Rabbit. Winch. Cat.; Carp River, U. P., Whitney Cat.; Keweenaw Co., O. A. Farwell; East Tawas; Elk Rapids.

MONOTROPA L.

*1603. M. uniflora L. Indian Pipe. Corpse Plant. Damp woods. Frequent. Th.

HYPOPITYS Hill.

*1604. **H. Hypopitys** (L.) Small. Pine-sap. *Monotropa Hypopitys* L. Oak and pine woods. Macomb Co., Ft. Gratiot, Austin, to Ontonagon River, L. Superior, Whitney Cat.; Cheboygan Co., cedar swamp and hard woods, rare, B. & K.; Grayling, Hicks; Escanaba, E. J. Hill. Infrequent.

ERICACEÆ DC. Heath Family.

LEDUM L.

*1605. **L Groenlandicum** OEder. Labrador Tea. *L latifolium* Ait. Swamps and bogs. Common northward.

KALMIA L.

1606. **K. angustifolia** L. Sheep Laurel. Lambkill. Wicky. Harrisville, west to Portage Lake; Tawas City and Thunder Bay, common, Winch. Cat.; Crawford Co.

1607. **K. glauca** Ait. Pale Laurel. Bogs. S. Mich., Wright's Cat.; Ionia Co.; Macomb Co.; Crawford Co.; Long Lake, Cheboygan Co.; Manistee, F. P. Daniels; Bay Co., G. M. Bradford. Rare. B. & K. Northward. Infrequent. Th.

1608. **K. glauca rosmarinifolia** Pursh. Keweenaw Co., O. A. Farwell.

ANDROMEDA L.

*1609. **A. Polifolia** L. Wild Rosemary. Sphagnous swamps, S. Mich., Wright's Cat.; Ionia Co. and northward. Frequent. Th.

XOLISMA Raf. LYONIA Nutt.

*1610. **X. ligustrina** L. Britton. Privet-Andromeda. *Andromeda ligustrina* Muhl. Keweenaw Pt., Dr. Robbins.

CHAMAEDAPHNE Moench. CASSANDRA D. Don.

*1611. **C. Calyculata** (L.) Moench. Leather-leaf. *Cassandra calyculata* Don. Swamps. Common. Th.

EPIGAEA L.

*1612. **E. repens** L. Trailing Arbutus. Borders of marshes, and woods in sandy soil. Jackson, W. C. Hull; Niles, I. N. Mitchell. Rare S., frequent in C., and common northward.

GAULTHERIA L.

*1613. **G. procumbens** L. Creeping Wintergreen. Low woods and borders of swamps. Common. Th.

ARCTOSTAPHYLOS Adans.

1614. **A. Uva-Ursi** (L.) Spreng. Bearberry. Sandy soil. Abundant northward, but rare S. of lat. 43. Th.

VACCINIACEÆ Lindl. Huckleberry Family.

GAYLUSSACIA H. B. K.

*1615. **G. resinosa** (Ait.) Torr. & Gray. Black Huckleberry. Hillsides. Frequent. Th.

POLYCODIUM Raf. VACCINIUM L., in part.

1616. **P. stamineum** (L.) Greene. Deerberry. *Vaccinium stamineum* L. Ann Arbor, C. A. Davis.

VACCINIUM L.

1617. **V. atrococcum** (A. Gray) Heller. Keweenaw Co., O. A. Farwell.

1618. **V. caespitosum** Michx. Shores of Lake Superior and westward, A. Gray, Fl. N. A.; Lyons. U. & P.

*1619. **V. Canadense** Richards. Canada Blueberry. Swamps. Commonest species in Cheboygan Co., B. & K. Common. Th.

*1620. **V. corymbosum** L. Swamp Blueberry. *V. corymbosum amoenum* A. Gray. Swamps. Yielding abundantly; variable. Common. Th. Keweenaw Co., O. A. Farwell.

1621. **V. membranaceum** Dougl. Thin-leaved Bilberry. *V. myrtilloides* Hook. Damp woods. L. Superior, A. Gray, Fl. N. A.; Keweenaw Co., O. A. Farwell. U. P.

1622. **V. nigrum** (Wood) Britton. Low Black Blueberry. Keweenaw Co., O. A. Farwell.

1623. **V. ovalifolium** J. E. Smith. Oval-leaved Bilberry. Woods. L. Superior, S. shore, Robbins. U. P.

*1624. **V. Pennsylvanicum** Lam. Dwarf Blueberry. Dry hills and barrens. The lowest and earliest fruited of the blueberries, A. Gray. Very variable in color of fruit. Common. Th.

1625. **V. Pennsylvanicum angustifolium** (Ait.) A. Gray. Keweenaw Co., O. A. Farwell.

1626. **V. uliginosum** L. Bog Bilberry. Shores of Lake Superior, A. Gray; Isle Royale and White Fish Pt., L. Superior, Henry Billman. U. P.

1627. **V. vacillans** Kalm. Low Blueberry. Alma, Ann Arbor, C. A. Davis. Barrens. Infrequent. Th.

CHIOGENES Salisb.

*1628. **C. hispidula** (L.) T. & G. Creeping Snowberry. *C. serpyllifolia* Salisb. S. Mich., Wright's Cat.; Ionia Co.; Montcalm Co.; Petoskey, Roseommon, Alma, C. A. Davis. Sphagnous swamps. Infrequent. Th.

OXYCOCCUS Hill. SCHOLLERA Roth.

*1629. **O. macrocarpus** (Ait.) Pers. Large Cranberry. *Vaccinium macrocarpon* Ait. Bogs. The common Cranberry of the market. Common. Th.

*1630. **O. Oxycoccus** (L.) MacM. Small Cranberry. *Vaccinium Oxycoccus* L. Sphagnous swamps. Ionia Co.; Alma, Ann Arbor, C. A. Davis; Constantine, C. F. Wheeler, and northward. Infrequent.

PRIMULACEÆ Vent. Primrose Family.

PRIMULA L.

1631. **P. farinosa** L. Bird's-eye Primrose. Pictured Rocks, G. H. Hicks; shores of Little Traverse Bay; Drummond's Island, Winch. Cat.; L. Superior, Whitney Cat.; Keweenaw Co., O. A. Farwell; Alpena, C. A. Davis.

*1632. **P. Mistassinica** Michx. S. E. University Herb; Lake Superior, Whitney Cat.; rocks, Grand Ledge; Presque Isle, Dr. Houghton; Eagle River, F. E. Wood. Rare.

ANDROSACE L.

1633. **A. occidentalis** Pursh. Androsace. Niles, Ralph Ballard.

SAMOLUS L.

*1634. **S. floribundus** H. B. K. Water Pimpernel. *S. Valerandi Americanus* A. Gray. Springy places. Common along Maple River; Flint; Alma; Macomb Co.; N. W., University Herb.

LYSIMACHIA L.

1635. **L. Nummularia** L. Moneywort. Escaped from cultivation. Monroe Co., C. F. Wheeler; Ypsilanti, O. A. Farwell; Alma, Tuscola Co., C. A. Davis.

1636. **L. producta** (A. Gray) Fernald. *L. stricta producta* A. Gray. In Herb. Gray from Mich., L. H. Bailey; Alma, C. A. Davis.

1637. **L. quadrifolia** L. Crosswort. Sandy soil. Ann Arbor. Winch. Cat.; Ionia Co.; Montcalm Co.; Flint; Macomb Co., Alma; northward to Oscoda Co. L. P.

*1638. **L. terrestris** (L.) B. S. P. Bulb-bearing Loosestrife. *L. stricta* Ait. Borders of marshes. Alma, Ann Arbor, C. A. Davis; Hubbardston, C. F. Wheeler.

STEIRONEMA Raf.

*1639. **S. ciliatum** (L.) Raf. Fringed Loosestrife. Swamps. Common. Th.

1640. **S. lanceolatum** (Walt.) A. Gray. Lance-leaved Loosestrife. Howard City, W. J. B,; Detroit, O. A. Farwell; low grounds, Cheboygan Co., B. & K.

*1642. **S. quadriflorum** (Sims) Hitchc. Prairie Moneywort. *S. longifolium* A. Gray. Banks of streams. Ann Arbor and Ft. Gratiot. Winch. Cat.: Ionia Co.; Flint. Frequent. L. P.

NAUMBERGIA Moench.

*1643. **N. thyrsiflora** (L.) Duby. Tufted Loosestrife. *Lysimachia thyrsiflora* L. Tufted Loosestrife. Swampy soil. Alma, Ann Arbor, C. A. Davis. Common.

TRIENTALIS L.

*1644. **T. Americana** (Pers.) Pursh. Star-flower. Damp woods. Common. Th.

ANAGALLIS L.

1645. **A. arvensis** L. Common Pimpernel. Ann Arbor. Mary H. Clark; St. Clair, C. K. Dodge; Detroit, O. A. Farwell.

DODECATHEON L.

1646. **D. Meadia** L. Shooting Star. Moist, shaded grounds, A. Gray, Dr. A. B. Lyons; Belle Isle, O. A. Farwell.

OLEACEÆ Lindl. Olive Family.

SYRINGA L.

1647. **S. Persica** L. Persian Lilac. Keweenaw Co., Detroit, O. A. Farwell.

1648. **S. vulgaris** L. Lilac. Keweenaw Co., Ypsilanti, O. A. Farwell. Escaped from cultivation.

FRAXINUS L.

*1649. **F. Americana** L. White Ash. Common. Th.

*1650. **F. lanceolata** Borck. Green Ash. *F. viridis* Michx. f. Alma, C. A. Davis; Ann Arbor, Winch. Cat.; and northward. Rare.

*1651. **F. nigra** Marsh. Black Ash. *F. sambucifolia* Lam. Common. Th.

*1652. **F. Pennsylvanica** Marsh. Red Ash. *F. pubescens* Lam. Low grounds. Ionia Co.; S. Mich., Wright. Cat.; Drummond's I., Winch. Cat.; along Black River, Cheboygan Co., B. & K.; Keweenaw Co., O. A. Farwell Scarce.

*1653. **F. quadrangulata** Michx. Blue Ash. Rich woods. Infrequent. Ann Arbor, C. A. Davis; Lenawee Co., W. J. B.

GENTIANACEÆ Dumort. Gentian Family.

ERYTHRAEA Neck.

*1654. **E. Centaurium** (L.) Pers. Centaury. Agricultural College grounds, L. H. Bailey. The only locality known in the State.

SABBATIA Adans.

1655. **S. angularis** (L.) Pursh. Marshes, Cass Co., Univ. Herb., 1838; Goguac Lake, near Battle Creek, V. M. Spalding; S. Mich., Wright's Cat.; Berrien Co., E. F. Smith. Rare.

GENTIANA L.

*1656. **G. Andrewsii** Griesb. Closed Gentian. River banks. Frequent.

*1657. **G. crinata** Froel. Fringed Gentian. Low grounds, Lenawee Co., G. F. Comstock; Ann Arbor, Alma, C. A. Davis, Winch. Cat.; South Haven, L. H. Bailey; Mackinac, Whitney; Ionia Co. Frequent. Th.

*1658. **G. detonsa** Rottb. Sandler Fringed Gentian. *G. serrata* Gunner. Tamarack swamps. Frequent. Th.

1659. **G. flavida** A. Gray. Yellowish Gentian. *G. alba* A. Gray. Low meadows and borders of woods. Ionia Co.; Clinton Co.; Ann Arbor and S. W., Winch. Cat.; to L. Superior. Rare or local.

1660. **G. linearis** Froel. Narrow-leaved Gentian. *A. latifolia* A. Gray. Keweenaw Co., O. A. Farwell; Escanaba, C. F. Wheeler. Creek bottoms.

*1661. **G. puberula** Michx. Downy Gentian. Barrens. Ann Arbor, Miss Clark, Miss Allmendinger. Rare. S.

1662. **G. quinquefolia** L. Stiff Gentian. Moist hillsides. Ann Arbor, Winch. Cat.; Ionia Co. Occasional. C. & S.

1663. **G. quinquefolia occidentalis** (A. Gray) A. S. Hitchcock. Lenawee Co., G. F. Comstock; Ann Arbor, Winch. Cat.; Hubbardston; Macomb Co. Infrequent.

1664. **G. rubricaulis** Schwein. Red-stemmed Gentian. *G. linearis lanceolata* A. Gray. Pt. au Chene, L. Mich., Winch. Cat.; low ground near Black Lake, Cheboygan Co., B. & K.; Minnesota and along L. Superior, A. Gray. N. & U. P.

1665. **G. Saponaria** L. Soapwort Gentian. Moist woods. Macomb Co.; S. Mich., Wright Cat.; St. Clair, C. K. Dodge. Infrequent. S.

FRASERA Walt.

*1666. **F. Carolinensis** Walt. American Columbo. Jackson Co., and westward, Winch. Cat.; Ann Arbor, Miss Clark; Constantine, Three Rivers, C. F. Wheeler; Ingham Co., W. J. B.; Sturgis, F. P. Daniels; Addison, O. C. McLouth; Lenawee Co., G. F. Comstock; Grand Rapids; Macomb Co.; S. W., H. S. Pepoon. Scarce. C. & S.

TETRAGONANTHUS G. Gmel. HALENIA Borck.

1667. **T. deflexus** (J. E. Smith) Kuntze. Spurred Gentian. *Halenia deflexa* Griseb. Shore of Little Traverse Bay, near Harbor Point; Drummond's Is. and St. Helen's Is., Winch. Cat.; northward to Lake Superior; shore Black Lake, Cheboygan Co.; Keweenaw Co., O. A. Farwell. Frequent.

1668. **T. deflexus Brentonianus** (Griseb.) Britton. Keweenaw Co., O. A. Farwell.

BARTONIA Muhl.

*1669. **B. Virginica** (L.) B. S. P. *B. tenella* Willd. Open woods. S. Mich., Wright Cat.; Algonac; Hubbardston; Flint; Grayling; St. Clair Co., C. K. Dodge; Grass Lake, C. A. Davis. Rare.

MENYANTHACEÆ G. Don. Buckbean Family.

MENYANTHES L.

*1670. **M. trifoliata** L. Buckbean. Bogs. Th.

LIMNANTHEMUM Gmelin.

1671. **L. lacunosum** (Vent.) Griseb. Floating Hart. Keweenaw Pt., Dr. Robbins.

APOCYNACEÆ Lindl. Dogbane Family.

VINCA L.

1672. **V. minor** L. Periwinkle. Occasionally escaped from cultivation.

APOCYNUM L.

*1673. **A. androsaemifolium** L. Spreading Dogbane. Borders of woods. Common. Th.

*1674. **A. cannabinum** L. Indian Hemp. Low grounds. Exceedingly variable in size, habit, shape of leaves, pubescence. Common. Th.

*1675. **A. cannabinum glaberrimum** DC. Belle Isle, O. A. Farwell.

1676. **A. hypericifolium** Ait. Clasping-leaved Dogbane. Washington, Dr. D. Cooley; Flint, Dr. D. Clark; St. Clair Co., C. K. Dodge.

1677. **A. Milleri** Britton. Miller's Dogbane. Detroit, O. A. Farwell.

1678. **A. pubescens** R. Br. Velvet Dogbane. Detroit, O. A. Farwell.

ASCLEPIADACEÆ Lindl. Milkweed Family.

ASCLEPIAS L.

1679. **A. amplexicaulis** J. E. Smith. *A. obtusifolia* Michx. Baldwin, Lake Co., W. J. B.; Sturgis; Barron Lake, C. F. Wheeler; Niles, O. J. Stilwell. Rare.

*1680. **A. exaltata** (L.) Muhl. Poke Milkweed. *A. phytolaccoides* Pursh. Moist grounds. Ann Arbor; Ft. Gratiot, Winch. Cat.; Alma; Ionia Co.; Flint; Macomb Co. Infrequent. C. & S.

*1681. **A incarnata** L. Swamp Milkweed. Banks of streams. Common. Th.

1682. **A. pulchra** Ehrh. Hairy Milkweed. Hansen's Island. Algonac Co., J. W. Stacy.

1683. **A. purpurascens** L. Purple Milkweed. Woods. Ann Arbor, Winch. Cat.; Ionia Co.; Clinton Co.; Flint; Macomb Co.; Huron Co.; Tuscola Co. S. & S.

1684. **A. quadrifolia** Jacq. Four-leaved Milkweed. Ann Arbor, Winchell's Catalogue.

*1685. **A. Syriaca** L. Common Milkweed. *A. Cornuti* Dec. Fields. Common. Th.

1686. **A. Sullivantii** Engelm. Sullivan's Milkweed. Walpole Island, C. K. Dodge; Tuscola Co., C. A. Davis; Esserville, C. F. Wheeler.

*1687. **A. tuberosa** L. Butterfly-weed. Pleurisy-root. Sandy soil. Ranges from Canada to Florida and from the Saskatchewan Valley to Texas. Common.

1688. **A. verticillata** L. Whorled Milkweed. Barrens, S. Mich., Wright Cat.; Monroe Co., Grand Rapids. C. F. Wheeler; Washington, Macomb Co., Dr. D. Cooley.

ACERATES Ell.

1689. **A. Floridana** (Lam.) Hitchc. Florida Milkweed. *A. longifolia* Ell. South Haven, L. H. Bailey; Bay Co., G. M. Bradford; Detroit, O. A. Farwell; Tuscola Co., C. A. Davis.

1690. **A. viridiflora** (Raf.) Eaton. Green Milkweed. C. & S. Grand Rapids, Geo. D. Sones; Ft. Gratiot, Winch. Cat.; S. W., Wright Cat.; Ann Arbor, C. A. Davis; S. W., H. S. Pepoon; Detroit, O. A. Farwell. Rare.

CYNANCHUM L. VINCETOXICUM Walt., in part.

*1691. **C. nigrum** (L.) Pers. Black Swallow-wort. *Vincetoxicum nigrum* Moench. Escaped from cultivation on College grounds.

CONVOLVULACEÆ Vent. Morning-Glory Family.

CONVOLVULUS L.

1692. **C. Americanus** (Sims.) Greene. S. W., H. S. Pepoon.

*1693. **C. arvensis** L. Bindweed. Alma, Ann Arbor, C. A. Davis; Hubbardston; College grounds, along C. & G. T. R. R. Spreading.

1695. **C. hederacea** Wall. Chinese Morning glory. Bay City, G. M. Bradford.

*1696. **C. repens** L. Trailing Bindweed. *C. sepium repens* A. Gray. Frequent.

*1697. **C. sepium** L. Hedge Bindweed. Low grounds. Common. Th.

1698. **C. spithamaeus** L. Upright Bindweed. Sandy fields. Local. Th.

1698a. **C. stans** Michx. Keweenaw Co., O. A. Farwell.

IPOMOEA L.

1699. **I Pandurata** (L.) Meyer. Wild Potato-vine. Man-of-the-Earth. Win. Cat.; Niles, I. N. Mitchell; Coleman Cat.; Lenawee Co., W. J. B. Infrequent. S.

1700. **I. purpurea** (L.) Roth. Morning Glory Bay Co., G. M. Bradford; Ypsilanti, Detroit, O. A. Farwell; Alma, C. A. Davis; Ann Arbor. Escaped from cultivation.

CUSCUTACEÆ Dumort. Dodder Family.

CUSCUTA L.

*1701. **C. arvensis** Beyrich. Field Dodder. Lansing, C. F. Wheeler; Rochester, W. S. Cooper.

*1702. **C. Cephalanthi** Engelm. Button-bush Dodder. *C. tenuiflora* Elgelm. Maple River Valley; Coleman Cat.; on willows along Cedar River east of the College.

1703. **C. Coryli** Engelm. Hazel Dodder. *C. inflexa* Engelm. Port Huron, C. K. Dodge; Rochester and Algonac, W. S. Cooper.

1704. **C. Epithymum** Murr. Clover Dodder. Introduced at Salem, with alfalfa seed.

*1705. **C. Gronovii** Willd. Gronovius' Dodder. Low grounds. Frequent. C. & S.

1706. **C Polygonorum** Engelm. Smart-weed Dodder. *C. chlorocarpa* Engel. S. Haven, Mrs. Millington. S. & W.

POLEMONIACEÆ DC. Phlox Family.

PHLOX L.

1707. **P. bifida** Beck. Cleft Phlox. Rare. Shores of Barron Lake; Klinger Lake, the farthest station east known for this interesting plant. C. F. Wheeler. S. W.

*1708. **P. divaricata** L. Wild Blue Phlox. S. W., H. S. Pepoon; woods and fields, northward to Kingsley and Frankfort. Common. L. P.

1709. **P. paniculata** L. Garden Phlox. Keweenaw Co., O. A. Farwell. Introduced.

1710. **P. pilosa** L. Downy Phlox. Dry, sandy fields, Ann Arbor, Winch. Cat.; Ionia Co.; Flint; Macomb Co. Infrequent.

1711. **P. subulata** L. Ground or Moss Pink. S. Mich., Winch. Cat.; shore of Barron Lake. C. F. Wheeler; Belle Isle, O. A. Farwell. Common in cultivation.

HYDROPHYLLACEÆ Lindl. Water-leaf Family.

HYDROPHYLLUM L.

*1712. **H. appendiculatum** Michx. Appendaged Water-leaf. Moist hillsides and rich woods, northward to Frankfort. Frequent. L. P.

*1713. **H. Canadense** L. Broad-leaved Water-leaf. Damp, rich woods. Frequent. C. & S.

*1714. **H. Virginicum** L. Virginia Water-leaf. Rich woods. Frequent. C. & S.

PHACELIA Juss.

1715. **P. Franklinii** (R. Br.) A. Gray. Franklin's Phacelia. "Shores of L. Superior, especially on Isle Royale," A. Gray and Dr. A. B. Lyons. U. P.

BORAGINACEÆ Lindl. Borage Family.

CYNOGLOSSUM L.

*1716. **C. officinale** L. Common Hound's-Tongue. Roadsides. Frequent. Th.

*1717. **C. Virginicum** L. Wild Comfrey. Open woods, Comins, Oscoda Co.: Escanaba, where it replaces C. officinale as a weed. E. J. Hill. Frequent. Th.

LAPPULA Moench. ECHINOSPERMUM Sw.

1718. L. Americana (A. Gray) Rydberg. Nodding Stickseed. *Echinospermum deflexum Americanum* A. Gray. Cheboygan Co., B. & K.
*1720. L. Lappula (L.) Karst. Stickseed. *Echinospermum Lappula* Lehm. A worthless weed along roadsides and in waste places. Th.
*1721. L. Virginiana (L.) Greene. Virginia Stickseed. *Echinospermum Virginicum* Lehm. Woods. Frequent. Th.

MERTENSIA Roth.

1722. M. paniculata (Ait.) G. Don. Tall Lungwort. Whitney Cat.; Gray; Keweenaw Co., O. A. Farwell. U. P.
1723. M. Virginica (L.) DC. Virginia Cowslip. Lungwort. Blue Bells. Near Adrian. Mrs. I. H. Wheeler; S. E. of Grand Rapids, G. D. Sones. Rare.

MYOSOTIS L.

1724. M. arvensis (L.) Lehm. Field Scorpion Grass. Lapeer, Mrs. M. Owen.
1725. M. laxa Lehm. Smaller Forget-me-not. Lapeer, Mrs. M. Owen.
1726. M. palustris (L.) Lam. Escaped from gardens. Port Huron, M. Allenbruch.
*1727. M. Virginica (L.) B. S. P. Spring Scorpion Grass. *M. verna* Nutt. Winch. Cat.; Coleman Cat.; Flint, Dr. Clark; Ann Arbor, I. N. Mitchell; shore of Park Lake, Clinton Co., C. F. Wheeler. Rare. S.

LITHOSPERMUM L.

*1729. L. arvense L. Wheat-Thief. Red-root. Corn Gromwell. In Wheat fields. Introduced from the old world. Common. C. & S.
*1730. L. canescens (Michx.) Lehm. Puccoon of the Indians. Sandy fields, Ann Arbor, Winch. Cat.; Ionia Co.; Macomb Co., and northward. Th.
*1731. L. Gmelini (Michx.) Hitch. Hairy Puccoon. *L. hirtum* Lehm. Light sand. Tuscola Co., C. A. Davis; Bay Co., G. M. Bradford; Berrien Co., H. S. Pepoon.
*1732. L. latifolium Michx. American Gromwell. Borders of woods S. Mich., Winch. Cat.; Ionia Co.; Flint; Bois Blanc and other islands in Detroit River; Maclagan, Canadian Catalogue. Frequent. C., & S.
1732a. L. linearifolium Goldie. Narrow-leaved Puccoon. *L. angustifolium* Michx., not Forsk. Dr. A. B. Lyons; "Mich.," Gray's Manual; Port Huron, C. K. Dodge.
*1733. L. officinale L. Common Gromwell. Roadsides. Tuscola Co., C. A. Davis. Infrequent. Th.

ONOSMODIUM Michx.

1734. O. molle Michx. Soft-haired False Gromwell. *O. Carolinianum molle* A. Gray. Only noticed by Dr. D. Cooley. Macomb Co.

SYMPHYTUM L.

*1735. S. officinale L. Common Comfrey. Escaped from gardens. Infrequent.

BORAGO L.

1736. B. officinalis L. A weed in parts of St. Clair Co., C. K. Dodge.

ECHIUM L.

1737. E. vulgare L. Blue-weed. Vulcan, E. J. Hill; Bay Co., G. M. Bradford.

VERBENACEÆ J. St. Hil. Vervain Family.

VERBENA L.

1738. V. angustifolia Michx. Narrow-leaved Vervain. Dry grounds. Winch. Cat. S.
1739. V. bracteosa Michx. Large-bracted Vervain. Waste places. Coleman Cat.; Kalamazoo, L. H. Bailey; Port Huron, C. K. Dodge; Manistee, F. P. Daniels; Roscommon Co., C. A. Davis.

1740. V. bracteosa x stricta. Near Port Huron, C. K. Dodge.
*1741. V. hastata L. Blue Vervian. Roadsides. Common. Th.
1742. V. hastata oblongifolia Nutt. *V. urticifolia riparia* (Raf.) Britton. A probable hybrid between V. hastata and V. urticifolia. South of Marshall, where no other species were found excepting the two last named. W. J. B.; Detroit, O. A. Farwell.
1744. V. officinalis L. Detroit, O. A. Farwell.
1745. V. stricta Vent. Mullein-leaved Vervain. Grand Rapids, H. C. Skeels; Port Huron, C. K. Dodge; Detroit, O. A. Farwell.
*1746. V. urticifolia L. White Vervain. Waste places. Common. Th.
1747. V. urticifolia riparia (Raf.) Britton. Detroit, O. A. Farwell.

LIPPIA L.

1748. L. lanceolata Michx. Fog-fruit. Coleman Cat.; Niles, I. N. Mitchell; Algonac, W. S. Cooper. S. W.

LABIATÆ B. Juss. Mint Family.

AJUGA L.

*1750. A. reptans L. Bugle. Bay City, G. M. Bradford.

TEUCRIUM L.

*1751. T. Canadense L. American Germander. Wood Sage. Low grounds. Infrequent at Black Lake, Cheboygan Co., B. & K. Alma, Ann Arbor, C. A. Davis. L. P.
1752. T. menthifolium Bickwell, Algonac, W. S. Cooper; Alma, where the type was collected.
1753. T. occidentalis A. Gray. Hairy Germander. Gaylord, G. L. Stewart.

SCUTELLARIA L.

1754. S. cordifolia Muhl. Heart-leaved Skullcap. *S. versicolor* Nutt. Banks of streams. S. Mich., Wright Cat.
*1755. S. galericulata L. Marsh Skullcap. Alma, C. A. Davis. Low grounds. Common. Th.
*1756. S. lateriflora L. Mad-dog Skullcap. Roscommon, Alma, Ann Arbor, C. A. Davis. Low grounds. Common. Th.
1757. S. parvula Michx. Small Skullcap. Ionia, E. F. Smith; islands east of Georgian Bay, Bell, Can. Cat. Infrequent.
1758. S. pilosa Michx. Hairy Skullcap. S. W., Winch. Cat.; Gray's Manual, 6th edition.

MARRUBIUM L.

*1759. M. vulgare L. Common Horehound. Roadsides, escaped from cultivation. Ionia Co.; Flint; S. Mich., Winch. Cat.; Port Austin; Grand Traverse and Benzie Counties. Frequent.

AGASTACHE Clayt. LOPHANTHUS Benth.

*1760. A. nepetoides (L.) Kuntze. Catnep Giant-Hyssop. *Lophanthus nepetoides* Benth. Low grounds. Ionia Co.; Flint; S. W., Wright Cat.; Grosse Isle, Miss Clark. C. & S. Infrequent.
1761. A. scrophulariaefolia (Willd.) Kuntze. Figwort. Giant-Hyssop. *Lophanthus scrophulariaefolius* Benth. Low grounds. . S. Mich., Wright Cat.; Lenawee Co., G. F. Comstock; Macomb Co.; Hubbardston. Infrequent. C. & S.

NEPETA L.

*1762. N. Cataria L. Catnep. Near dwellings. Common. Th.

GLECOMA L. NEPETA L., in part.

*1763. G. hederacea L. Gill-over-the-Ground. *Nepeta Glechoma* Benth. Sparingly escaped from culture. Flint; Grand Rapids, Coleman Cat.; Cassopolis; Alma; Ann Arbor. C. & S.

DRACOCEPHALUM L.

1764. **D. parviflorum** Nutt. American Dragon-head. This interesting plant was first detected in the Lower Peninsula in June, 1878, when it was found in Roscommon Co., south of Houghton Lake. Alcona Co.; Hubbardston, Ionia Co.; S. W., H. S. Pepoon. Rare southward.

PRUNELLA L. Brunella.

1765. **P. vulgaris** L. Common Self-heal or Heal-all. *Brunella vulgaris* L. "Brunella" is not the correct name. Fields. Occasionally the flowers are white. Common. Th.

PHYSOSTEGIA Benth.

1766. **P. Virginiana** (L.) Benth. Wet grounds; varies greatly. Ann Arbor, Winch. Cat.; S. W., Wright Cat.; Alma; Muir; Kalamazoo, L. H. Bailey; Flint, Dr. Clark, northward to Keweenaw Co., O. A. Farwell.

GALEOPSIS L.

1767. **G. Ladanum** L. Red Hemp-Nettle. Ft. Gratiot and Sault de Ste. Marie, Winch. Cat.

1768. **G. Tetrahit** L. Common Hemp-Nettle. Rare in C. of the State. Abundant at Mackinac, Winch. Cat.; Cheboygan Co., B. & K.; Alma; Harbor Springs, C. F. Wheeler. Th.

LEONURUS L.

*1769. **L. Cardiaca** L. Common Motherwort. Waste grounds. Common.

LAMIUM L.

*1770. **L. amplexicaule** L. Dead Nettle. Naturalized in gardens. In fields west of Ann Arbor, C. A. Davis.

1771. **L. maculatum** L. Escaped from cultivation. St. Clair Co., C. K. Dodge.

STACHYS L.

1772. **S. aspera** Michx. Rough Hedge Nettle. Alma, Ann Arbor, C. A. Davis. Wet grounds. Infrequent. L. P.

*1773. **S. aspera glabra** Gray. Rare.

1774. **S. hyssopifolia** Michx. Hyssop Hedge Nettle. Wet grounds. S. Mich., Wright Cat.; Stanton, E. J. Quackenbush. Rare. Th.

1775. **S. palustris** L. Hedge Nettle. Keweenaw Co., O. A. Farwell.

MONARDA L.

1776. **M. didyma** L. Bee-Balm. Oswego Tea. Rare in Michigan. Barron Lake, C. F. Wheeler; Flint, Dr. Clark; St. Clair Co., C. K. Dodge. S. W.

*1777. **M. fistulosa** L. Wild Bergamot. Sandy soil. Common. Th.

1778. **M. media** Willd. Purple Bergamot. Near Detroit, O. A. Farwell.

1779. **M. mollis** L. Pale Wild Bergamot. *M. scabra* Beck. Port Huron, C. K. Dodge; Ypsilanti, Belle Isle, O. A. Farwell.

1780. **M. punctata** L. Horse-Mint. Sandy soil. S. Mich., Wright Cat.; S. Haven, L. H. Bailey; Grand Haven, G. D. Sones. Infrequent. S.

BLEPHILIA Raf.

*1781. **B. ciliata** (L.) Raf. Dry ground. Ionia Co.; Ann Arbor, and Sault de Ste. Marie, Winch. Cat. Scarce. Th.

*1782. **B. hirsuta** (Pursh.) Torr. Hairy Blephilia. Low woods. S. Mich., Wright Cat.; Alma; Ionia Co. C. & S.

HEDEOMA Pers.

1783. **H. hispida** Pursh. Rochester, O. A. Farwell.

*1784. **H. pulegioides** (L.) Pers. American Pennyroyal. Fields. Hubbardston; Rochester; S. Mich., Wright Cat.; Macomb Co.; Lenawee Co., W. J. B. C. & S.

SATUREIA L.

1785. **S. hortensis** L. Summer Savory. St. Clair Co. near Capac, C. K. Dodge.

CLINOPODIUM L. CALAMINTHA Moench.

1786. **C. glabrum** (Nutt.) Kuntze. Low Calamint. *Calamintha Nuttallii* Benth. Drummond's Island, and northward, common. Not seen in C. of the State; S. E., Wright Cat.

*1787. **C. vulgare** L. White Basil. *Calamintha Clinopodium* Benth. Fields. Ionia Co.; Fort Gratiot, Winch. Cat., and northward to Lake Superior. Th.

HYSSOPUS L.

1788. **H. officinalis** L. Escaped from gardens. Flint; S. W., Winch. Cat.

KOELLIA Moench. PYCNANTHEMUM Michx.

*1789. **K. flexuosa** (Walt.) MacM. Narrow-leaved Mountain-Mint. *Pycnanthemum linifolium* Pursh. Detroit, O. A. Farwell; Manistee, F. P. Daniels.

1790. **K. Virginiana** (L.) MacM. Virginia Mountain-Mint. *Pycnanthemum lanceolantum* Pursh. Low grounds. Ionia Co.; Flint; Macomb Co.; S. W., H. S. Pepoon, and southward. Frequent. C. & S.

THYMUS L.

1791. **T. Serpyllum** L. Creeping Thyme. Flint, Coleman Cat. Rarely escaped from gardens.

*1792. **T. vulgaris** L. Common Thyme. College grounds.

LYCOPUS L.

*1793. **L. Americanus** Muhl. Cut-leaved Water Hoarhound. *L. sinuatus* Ell. Frequent.

1793a. **L. communis** Bicknell. Bugle-weed. Alma, Ann Arbor, C. A. Davis. Low grounds. Common L. P.

1794. **L. lucidus** Turcz. Western Water Hoarhound. Port Huron, C. K. Dodge.

1794a. **L. Macrophyllus** Benth. Thin-leaved Bugle-weed. *L. membranacea* Bicknell. Keweenaw Co., O. Farwell.

1794b. **L. membranaceus** Bicknell. Thin-leaved Bugle-weed. "Mich." Britton's Manual.

1795. **L. rubellus** Moench. Water Hoarhound. Clinton Co., E. F. Smith; St. Clair Co., Brotherton; Detroit, O. A. Farwell.

MENTHA L.

1797. **M. arvensis** L. Corn Mint. Algonac, C. K. Dodge.

*1798. **M. Canadensis** L. Wild Mint. Low grounds. Common. Th.

1799. **M. Canadensis glabrata** Benth. Keweenaw Co., O. A. Farwell.

1800. **M. citrata** Ehrh. Bergamot Mint. Algonac, Walpole Island, C. K. Dodge.

*1801. **M. piperita** L. Peppermint. Along streams. Extensively cultivated in St. Joseph and Wayne Counties for the oil. Common. Th.

1802. **M. sativa** L. Marsh Whorled Mint. Sturgis, F. P. Daniels.

*1803. **M. spicata** L. Spearmint. *M. viridis* L. Roadsides. Escaped from cultivation. Frequent.

COLLINSONIA L.

*1804. **C. Canadensis** L. Stone-root. Rich-weed. Rich woods. Ionia Co.; Flint; Detroit; Ann Arbor, and S. W., Winch. Cat. Frequent. C. & S.

SOLANACEÆ Pers. Potato Family.

PHYSALODES Boehm. NICANDRA Adans.

*1805. **P. physalodes** (L.) Britton. Apple-of-Peru. *Nicandra physalodes* Gaertn. Gardens. Ann Arbor, Winch. Cat.; Flint; Ionia Co.; Detroit, O. A. Farwell. Scarce.

PHYSALIS L.

1806. **P. heterophylla** Nees. Ground-Cherry. Detroit and Orion, O. A. Farwell; S. W., H. S. Pepoon.

1807. **P. heterophylla ambigua** (A. Gray) Rydberg. *P. Virginiana ambigua* A. Gray. Belle Isle and Keweenaw Co., O. A. Farwell.

1808. **P. heterophylla nyctaginea** (Dunal.) Rydberg. Howard City, W. J. B.; Barron Lake, Ronald, C. F. Wheeler.

1809. **P. ixocarpa** Brot. Tomatillo. Port Huron, C. K. Dodge.

*1810. **P. lanceolata** Michx. Prairie Ground-Cherry. Sandy soil. S. W., H. S. Pepoon: Ionia Co.: Alma. Frequent. Th.

1811. **P. Philadelphica** Lam. Philadelphia Ground-Cherry. Muskegon, C. D. McLouth; Belle Isle, O. A. Farwell.

1812. **P. pubescens** L. Low Hairy Ground-Cherry. Naturalized in West Bay City, G. M. Bradford.

*1813. **P Virginiana** Mill. Virginia Ground-Cherry. Light, sandy soil. Common. Th.

1814. **P. Virginiana vulgaris** Rydb. Grand Rapids, H. C. Skeels; Muskegon, W. J. B.; White Cloud, C. F. Wheeler.

LEUCOPHYSALIS Rydberg.

1815. **L. grandiflora** (Hook.) Rydberg. Large White-flowered Ground-Cherry. *Physalis grandiflora* Hook. "Clearings." First collected in L. P. near Farwell, in June, 1876, where it seemed to be at home. Near the mouth of the Au Sable River, Iosco Co., June, 1878, C. B. Cochran; "S. shore of L. Superior," A. Gray; Keweenaw Co., O. A. Farwell; Escanaba, E. J. Hill; Indian River, C. F Wheeler. N. & U. P.

SOLANUM L.

*1816. **S. Carolinense** L. Horse-Nettle. Introduced from the southwest; Port Huron, C. K. Dodge.

*1817. **S. Dulcamara** L. Bittersweet. Nightshade. Becoming common, especially in low land and swamps. C. & S.

*1818. **S. nigrum** L. Black Nightshade. Moist, cultivated fields. Common. C. & S.

*1819. **S. rostratum** Dunal. Beaked Nightshade. Introduced from the southwest.

LYCIUM L.

*1820. **L. vulgare** (Ait. f.) Dunal. Matrimony Vine. Escaped from gardens in places.

HYOSCYAMUS L.

1821. **H. niger** L. Black Henbane. Macomb Co.; Ft. Gratiot; Mackinac, abundant, Winch. Cat.

DATURA L.

1822. **D. Metel** L. Ypsilanti and Detroit, O. A. Farwell. Waste grounds. Rare.

*1823. **D. Stramonium** L. Common Stramonium, or Thorn-Apple. Alma, Ann Arbor, C. A. Davis; Port Huron, C. K. Dodge. Roadsides. Frequent. C. & S.

*1824. **D. Tatula** L. Purple Thorn-Apple. Flint; Macomb Co.; Berrien Co., H. S. Pepoon; Alma, Ann Arbor, C. A. Davis. C. & S.

NICOTIANA L.

1825. **N. rustica** L. Wild Tobacco. Emmet Co., cultivated by the Indians, Winch. Cat.

PETUNIA Juss.

1826. **P. axillaris** (Lam.) B. S. P. White Petunia. Waste places. Ypsilanti and Detroit, O. A. Farwell.

SCROPHULARIACEÆ Lindl. Figwort Family.

VERBASCUM L.

*1827. **V. Blattaria** L. Moth Mullein. Roadsides. S. Mich.; Ionia Co.; Detroit; Sturgis, F. P. Daniels; Alma, Ann Arbor, C. A. Davis.

*1828. **V. Thapsus** L. Common Mullein. Fields and roadsides everywhere, a common weed. Cultivated in England under the name of Aaron's Rod. Th.

CYMBALARIA Medic.

1829. **C. Cymbalaria** (L.) Wettst. Kenilworth Ivy. Lake shore at Elk Rapids, W. S. Cooper.

LINARIA Hill.

*1830. **L. Canadensis** (L.) Dumont. Wild Toad-Flax. S. shore of Saginaw Bay, Winch. Cat.; barrens in Clare Co. Infrequent or wanting in C. and S. Mich. Grand Rapids, G. D. Sones; Ann Arbor, Grass Lake, C. A. Davis.

*1831. **L. Linaria** (L.) Karst. Butter-and-Eggs. *L. vulgaris* Mill. Alma, Ann Arbor, C. A. Davis. Roadsides. Spreading from cultivation.

CHAENORRHINUM Reichb. LINARIA Hill., in part.

1832. **C. minus** (L.) Lange. *Linaria minor* L. St. Clair Co., C. K. Dodge; Detroit, O. A. Farwell.

SCROPHULARIA L.

1833. **S. leporella** Bicknell. Hare Figwort. Port Huron, C. K. Dodge; Island Lake, Vestaburg, C. F. Wheeler.

*1834. **S. Marilandica** L. Maryland Figwort. *S. nodosa Marylandica* A. Gray. Rich soil. Keweenaw Co., Belle Isle, O. A. Farwell; Alma, Ann Arbor, C. A. Davis, and southward. Frequent. Th.

CHELONE L.

*1835. **C. glabra** L. Snake-head. Borders of streams. Alma, Ann Arbor, C. A. Davis. Frequent. Th.

PENTSTEMON Soland.

1836. **P. canescens** Britton. Beard-tongue. *P. laevigatus canescens* Britton. Detroit, O. A. Farwell.

1837. **P. Digitalis** (Sweet) Nutt. *P. laevigatus Digitalis* A. Gray. Near Adrian, Mrs. I. H. Wheeler.

*1838. **P. hirsutus** (L.) Willd. Hairy Beard-tongue. *P. pubescens* Solander. Dry soil. Ann Arbor, Winch. Cat.; to Mackinac, G. H. Hicks; Alma. Common. Th.

1839. **P. Pentstemon** (L.) Britton. Smooth Beard-tongue. *P. laevigatus* Soland. Grand Rapids, Mrs. A. J. Peters.

COLLINSIA Nutt.

1840. **C. parviflora** Dougl. Small-flowered Collinsia. "Shady, moist ground, Upper Michigan," Gray, Fl. N. A.; Keweenaw Co., O. A. Farwell.

*1841. **C. verna** Nutt. Blue-eyed Mary. A beautiful little fall annual with blue and white flowers. Moist woods. Ann Arbor, Winch. Cat.; S. W., Wright's Cat.; Ionia Co., and probably reaches its N. limits in Gratiot Co. C. & S.

MIMULUS L.

1842. **M. alatus** Soland. Sharp-winged Monkey-flower. Sturgis, F. P. Daniels, S. W.

1843. **M. Jamesii** T. & G. James' Mimulus. Abundant at Mackinac, Winch. Cat.; "Upper Michigan," A. Gray; Petoskey; Hubbardston, Wheeler; Grayling, G. H. Hicks; Comstock, Kalamazoo Co., Tuthill; rare southward; near Millers, Ind., Flora of Cook Co., Illinois. Th.

1844. **M. moschatus** Dougl. Musk-flower. Keweenaw Co., O. A. Farwell.

*1845. **M. ringens** L. Monkey-flower. Wet places. Common. Th.

GRATIOLA L.

1846. **G. Virginiana** L. Clammy Hedge-Hyssop. S. Mich., Winch. Cat.; Keweenaw Pt., Dr. Robbins. Rare.

ILYSANTHES Raf.

1847. **I. attenuata** (Muhl.) Small. Detroit, O. A. Farwell; Bay Co., G. M. Bradford.
*1848. **I. dubia** (L.) Barnhart. *I. gratioloides* (L.) Benth. Long-stalked False Pimpernel. Near Algonac, J. W. Stacey. Low grounds. Frequent. C. & S.

LIMOSELLA L.

1849. **L. tenuifolia** Hoffm. Narrow-leaved Mudwort. *L. aquatica tenuifolia* Hoffmann. U. P., Dr. A. B. Lyons.

SYNTHYRIS Benth. Wulfenia Greene not Jacq.

1850. **S. Bullii** (Eaton) Barnhart. *Wulfenia Houghtoniana* (Benth). Greene. Oak barrens. S. Mich., Wright's Cat.; Ionia Co., three miles S. of Saranac, probably reaches here its N. limits; Barry Co., L. H. Bailey; Sturgis, F. P. Daniels. Rare.

VERONICA L.

*1851. **V. agrestis** L. Field Speedwell. Sandy fields. Coleman Cat.; and Flint. Rare.
*1852. **V. Americana** Schweinitz. American Brooklime. Brooks. Common. Th.
*1853. **V. Anagallis-aquatica** L. Water Speedwell. In springs and brooks. Frequent. Th.
*1854. **V. arvensis** L. Corn Speedwell. Cultivated and waste grounds. Common. Th.
1855. **V. Byzantina** (Sibth. & Smith) B. S. P. Buxbaum's Speedwell. *V. Buxbaumii* Tenore. Waste grounds, Coleman Cat. Corunna, G. H. Hicks; Port Huron, C. K. Dodge.
*1856. **V. Chamaedrys** L. Germander Speedwell. Escaped from cultivation. Port Huron, C. K. Dodge.
1857. **V. officinalis** L. Common Speedwell. Dry hills. Ann Arbor, Winch. Cat.; Alma, Ann Arbor, C. A. Davis. Scarce. S.
*1858. **V. peregrina** L. Neckweed. Purslane Speedwell. Moist grounds everywhere. Common. Th.
*1859. **V. scutellata** L. Marsh Speedwell. Swamps. Frequent. Th.
*1860. **V. serpyllifolia** L. Thyme-leaved Speedwell. Open grounds. Frequent. Th.

LEPTANDRA Nutt.

*1861. **L. Virginica** (L.) Nutt. Culver's-root. *Veronica Virginica* L. Open woods. Common. Th.

BUCHNERA L.

1862. **B. Americana** L. Blue-Hearts. Moist sandy ground. S. W. Wright Cat.; Flint; Macomb Co., Coleman Cat. Infrequent. C. & S.

DASYSTOMA Raf. Gerardia L., in part.

*1863. **D. flava** (L.) Wood. Downy False Fox glove. *Gerardia flava* L. Open woods. Frequent. C. & S.
1864. **D. laevigata** Raf. Entire-leaved False Fox glove. *Gerardia laevigata* Raf. Coleman's Cat.; Flint; Dr. Lyons. S.
*1865. **D. Pedicularia** (L.) Benth. Fern-leaved Fox glove. *Gerardia pedicularia* L. Woods. Frequent. L. P.
*1866. **D. Virginica** (L.) Britton. Smooth False Fox glove. *Gerardia quercifolia* Pursh. Oak woods. Frequent. C. & S.

GERARDIA L.

1867. **G. aspera** Dougl. Rough Purple Gerardia. "Plains and prairies, Mich.," A. Gray's Manual.
1868. **G. auriculata** Michx. Auricled Gerardia. Wright Cat. Rare. S.
*1869. **G. paupercula** (A. Gray) Britton. Small-flowered Gerardia. *G. purpurea*

paupercula A. Gray. Oakland Co.; shore of Park Lake, Clinton Co., C. F. Wheeler; St. Clair Co., W. S. Cooper.

1870. **G. purpurea** L. Purple Gerardia. Moist, sandy ground, near the Great Lakes; Port Huron, C. K. Dodge; Orion, O. A. Farwell. L. P.

1871. **G. tenuifolia** Vahl. Slender Gerardia. Ann Arbor, Winch. Cat., Macomb Co. Rare.

*1872. **G. tenuifolia asperula** A. Gray. Lenawee Co., G. F. Comstock; Flint; Dr. Clark.

CASTILLEJA Mutis.

*1873. **C. acuminata** (Pursh.) Spreng. Lance-leaved Painted Cup. *C. pallida septentrionalis* A. Gray. Lake Superior, A. Gray; Keweenaw Co., O. A. Farwell. U. P.

*1874. **C. coccinea** (L.) Spreng. Scarlet Painted Cup. Wet and dry grounds. Varies in color of bracts from scarlet to yellow. Common. Th.

EUPHRASIA L.

1875. **E. Canadensis** Townsend. Reported along Lake Superior as *E. officinalis Tartarica.*

PEDICULARIS L.

*1876. **P. Canadensis** L. Common Lousewort. Wood Betony. Moist banks and woodlands. Common. Th.

*1877. **P. lanceolata** Michx. Swamp Lousewort. Swamps. Frequent. Th.

RHINANTHUS L.

1878. **R. Crista-Galli** L. Yellow-Rattle. "Lake Superior," A. Gray. U. P.

MELAMPYRUM L.

1879. **M. latifolium** Muhl. Broad-leaved Cow-Wheat. Keweenaw Co., O. A. Farwell; Bay Co., G. M. Bradford.

*1880. **M. lineare** Lam. Narrow-leaved Cow-Wheat. *M. Americanum* Michx. Sandy woods. A form with broad, spear-shaped leaves is frequent. Common. Th.

LENTIBULARIACEÆ Lindl. Bladderwort Family.

UTRICULARIA L.

*1881. **U. cornuta** Michx. Horned Bladderwort. Shore of Pine Lake, Ingham Co.; Point Sable, Mason Co., C. E. St. John; Petoskey; Cheboygan Co., B. & K.; Keweenaw Co., O. A. Farwell; Alma, Ann Arbor, C. A. Davis. Th.

*1882. **U. gibba** L. Humped Bladderwort. Old Mission, Grand Traverse Co., E. J. Hill; shore of Park Lake, Clinton Co., C. F. Wheeler; Lenawee Co., G. F. Comstock; Sturgis, F. P. Daniels. Rare. L. P.

1883. **U. intermedia** Hayne. Flat-leaved Bladderwort. Shallow water. Ann Arbor, Winch. Cat.; Macomb Co.; Grand Rapids, Sones; northward to Black Lake, Cheboygan Co., B. & K., and Keweenaw Co., O. A. Farwell; Alma. Infrequent. Th.

1884. **U. minor** L. Smaller Bladderwort. Shallow water. Detroit River, D. H. Campbell; Ann Arbor, Winch. Cat.; Hillsdale, University Herb; Hubbardston; Montcalm Co.; northward. Rare.

*1885. **U. purpurea** Walt. Purple Bladderwort. Hamlin Lake, H. T. Blodgett; Marshall, W. J. B.; Pine Lake, Ingham Co., Grass Lake, C. F. Wheeler; Ann Arbor, C. A. Davis.

*1886. **U. resupinata** B. D. Greene. Reversed Bladderwort. Very abundant on the east shore of Woodward Lake, in Ionia Co., E. F. Smith; shore of Pine Lake, Ingham Co., also reported from Whitings, Ind.; Alma, C. A. Davis.

*1887. **U. vulgaris** L. Greater Bladderwort. Slow streams. Throat of corolla-orange, veined with brown-purple. Frequent. Th.

PINGUICULA L.

1888. **P. vulgaris** L. Butterwort. Wet rocks. Whitney's Catalogue; Isle Royale, Dr. A. B. Lyons; Pictured Rocks, abundant, G. H. Hicks. U. P.

OROBANCHACEÆ Lindl. Broom-rape Family.

THALESIA Raf. Aphyllon A. Gray.

1889. **T. fasciculata** (Nutt.) Britton. Yellow Cancer-root. *Aphyllon fasciculatum* A. Gray. "Sandy ground. Lake Michigan." A. Gray; sand dunes, Frankfort.
1890. **T. uniflora** (L.) Britton. Pale Broom-rape. Cancer-root. *Aphyllon uniflorum* Torr. & Gray. Damp woodlands, S. Mich., Wright Cat.; Ann Arbor, G. D. Sones; Flint; Grayling, G. H. Hicks; Lake Superior, Winch. Cat. Infrequent. Th.

CONOPHOLIS Wallr.

1891. **C. Americana** (L. f.) Wallr. Squaw-root. Moist woods. Ann Arbor; S. W. H. S. Pepoon; S. Mich. Wright Cat.; Ionia Co.; Flint; Alma; Macomb Co., northward to Keweenaw Co., F. Infrequent.

LEPTAMNIUM Raf. Epifagus Nutt.

1892. **L. Virginianum** (L.) Raf. Beech-drops. *Epifagus Virginiana* Nutt. Beech woods, Ionia Co.; Flint; Macomb Co. Very common in Grand-Saginaw Valley.

BIGNONIACEÆ Pers. Trumpet-creeper Family.

CATALPA Scop.

1893. **C. speciosa** Warder. Sturgis, F. P. Daniels. Probably introduced from the south.

ACANTHACEÆ J. St. Hil. Acanthus Family.

RUELLIA L.

1894. **R. cilosa** Pursh. Hairy Ruellia. Dry grounds. Wright Cat. Detroit, O. A. Farwell. S.
1895. **R. strepens** L. Smooth Ruellia. Dry soil. Wright Cat. S.

DIANTHERA L.

1896. **D. Americana** L. Dense-flowered Water-willow. In shallow water. Ann Arbor, Winch. Cat.; Put-in-Bay; S. Haven, L. H. Bailey. S.

PHRYMACEÆ Schauer. Lopseed Family.

PHRYMA L.

*1897. **P. Leptostachya** L. Lopseed. Moist woods. Pt. au Chene, Winch. Cat.; Flint; Macomb Co.; Wright Cat.; Ionia Co.; Turin, Marquette Co., B. Barlow; Manistee, F. P. Daniels; Alma, Ann Arbor, C. A. Davis. C. & S.

PLANTAGINACEÆ Lindl. Plantain Family.

PLANTAGO L.

1898. **P. aristata** Michx. Large-bracted Plantain. Introduced with clover seed. Huron Co., C. A. Davis.
*1899. **P. cordata** Lam. Heart-leaved Plantain. Borders of streams. S. Mich., Wright Cat.; Tuscola Co., Winch. Cat.; Ionia Co.; Clinton Co.; Flint; Macomb Co. Frequent. C. & S.
*1900. **P. lanceolata** L. Ripplegrass. Ribgrass. English Plantain. Buck-horn. Meadows and fields. Too common. The seeds are often mixed with clover seed. Th.
*1901. **P. major** L. Common Plantain. Waysides and about dwellings everywhere. Common. Th.

1902. P. media L. Hoary Plantain. Bay City, G. M. Bradford.
1903. P. Purshii R. & S. S. W., H. S. Pepoon.
*1904. P. Rugelii Dec. Rugel's Plantain. Waste places. Often confounded with *P. major*. Frequent.
1905. P. Virginica L. White Dwarf Plantain. Algonac, C. K. Dodge.

RUBIACEÆ B. Juss. Madder Family.

HOUSTONIA L.

1906. H. coerulea L. Bluets. Innocence. Keweenaw Point, Dr. Robbins.
1907. H. ciliolata Torr. Fringed Houstonia. *H. purpurea ciliolata* A. Gray. Dr. Wright. Three Rivers, C. F. Wheeler; Ypsilanti, O. A. Farwell.
1908. H. longifolia Gaertn. Long-leaved Houstonia. *H. purpurea longifolia* A. Gray. Hastings, L. H. Bailey; Ionia, common; Clare Co., abundant to L. Sup., Can. Cat.; Vestaburg, Grass Lake, Ann Arbor, C. A. Davis. Th.

CEPHALANTHUS L.

*1909. C. occidentalis L. Button-bush. Swamps and flooded river bottoms. Common, Cheboygan Co., B. & K. Very common southward. L. P.

MITCHELLA L.

*1910. M. repens L. Partridge-berry. Prefers beech and maple, hemlock, or pine woods, and is seldom found under oaks. Common. Th.

GALIUM L.

*1911. G. Aparine L. Cleavers. Goose grass. Common. Th.
*1912. G. asprellum Michx. Rough Bedstraw. Frequent. Th.
*1913. G. boreale L. Northern Bedstraw. Very common. Th.
*1914. G. circaezans Michx. Wild Liquorice. Dry woods, Cheboygan Co., B. & K. Frequent southward. L. P.
1915. G. Claytoni Michx. Clayton's Bedstraw. Muskegon, C. D. McLouth; St. Clair Co., C. K. Dodge; Keweenaw Co., O. A. Farwell.
*1916. G. concinnum Torr. & Gray. Shining Bedstraw. Flint; Ann Arbor, All. Cat.; Grand Ledge. Rare. C. & S.
*1917. G. lanceolatum Torr. Wild Liquorice. Riverdale, Gratiot Co.; Hubbardston; Flint; Macomb Co.; and S. Mich. Wr. Cat.; also L. Superior, Whitney; Alma, Ann Arbor, C. A. Davis. Th.
*1918. G. latifolium Michx. Purple Bedstraw. Infrequent. C. & S.
1919. G. Mollugo L. Wild Madder. Bay City, G. M. Bradford.
*1920. G. pilosum Ait. Hairy Bedstraw. Frequent as far north as Grand-Saginaw Valley. C. & S.
1921. G. tinctorium L. Marshes, Bay Co., G. M. Bradford; Keweenaw Co., O. A. Farwell.
*1922. G. trifidum L. Small Bedstraw. Bogs. Common. Th.
*1923. G. triflorum Michx. Sweet-scented Bedstraw. Frequent in C. & S., and very abundant northward. Th.

CAPRIFOLIACEÆ Vent. Honeysuckle Family.

SAMBUCUS L.

*1924. S. Canadensis L. Common Elder. Follows settlements. Common.
*1925. S. pubens Michx. Red-berried Elder. *S. racemosa* HK. More northern in its range than the last. Variety with dissected leaves seen in Clare Co. Th.

VIBURNUM L.

*1926. V. acerifolium L. Arrow-wood. Dockmackie. Frequent in Cheboygan Co., B. & K.; Alma, Ann Arbor, C. A. Davis.
1927. V. alnifolium Marsh. Hobble-bush. American Wayfaring-tree. *V. lantanoides* Michx. Whitney found none of the sp. abundant in the U. P.

*1928. **V. cassinoides** L. Withe-rod. Macomb Co.; Hubbardston; Stanton; Riverdale; Gratiot Co.; Houghton Lake; to L. Superior. Commonest sp. about Black Lake, B. & K. Frequent. Th.

1929. **V. dentatum** L. Arrow-wood. Sarnia, Ont., C. K. Dodge.

*1930. **V. Lentago** L. Sweet Viburnum. Sheep-berry. Frequent. C. & S., and northward. Cheboygan Co.; Alma. Th.

*1931. **V. Opulus** L. Cranberry-tree. Swamps and borders of streams. Common. Th.

1932. **V. pauciflorum** Pylaie. Few-flowered Cranberry-tree. Dr. Lyons. Gray's Manual. Rare. U. P.

1933. **V. prunifolium** L. Black Haw. Dr. Lyons; Kalamazoo, Tuthill; Barron Lake, Cass Co., C. F. Wheeler; Detroit, O. A. Farwell. Rare. S.

*1934. **V. pubescens** (Ait.) Pursh. Downey Arrow-root. Common. Th.

TRIOSTEUM L.

1934a. **T. aurantiacum** Bicknell. Birmingham, O. A. Farwell.

*1935. **T. perfoliatum** L. Horse-Gentian. Clinton Co.: Ionia Co.; Flint; Macomb Co.; Black River, Cheboygan Co., one plant seen by B. & K. Frequent southward. L. P.

LINNAEA L.

*1936. **L. Americana** Forbes. Twin-flower. *L. borealis Michx.*, not L. Very abundant in N. & U. P.; south to Grand River Valley, and S. E. to Macomb Co.; Port Huron, C. K. Dodge. C. N. & U. P.

SYMPHORICARPOS Juss.

1937. **S. occidentalis** Hook. Wolfberry. Ft. Gratiot, Austin; N. Mich., A. Gray; Port Huron, C. K. Dodge. Rare. C. N. & U. P.

1938. **S. pauciflorus** (Robbins) Britton. Low Snowberry. *S. racemosus pauciflorus* Robbins. Harbor Springs; Keweenaw Co., Dr. Robbins; Hubbardston, C. F. Wheeler.

1939. **S. racemosus** Michx. Snowberry. Along the Great Lakes, Saginaw Bay and Alpena Co., Winchell; L. Sup., Can. Cat. C. N. & U. P.

1940. **S. Symphoricarpos** (L.) MacM. Coral-berry. Indian Currant. *S. vulgaris* Michx. Keweenaw Co., O. A. Farwell.

LONICERA L.

1941. **L. Caprifolium** L. Perfoliate Honeysuckle. *L. grata* Aiton. Dr. Lyons. Gray's Manual.

*1942. **L. ciliata** Muhl. Fly-Honeysuckle. Frequent. Th.

1943. **L. coerulea** L. Mountain Fly-Honeysuckle. Dr. Lyons. Keweenaw Co., O. A. Farwell; Clifton, F. E. Wood, in University Herb.

*1944. **L. dioica** L. Glaucous Honeysuckle. *L. glauca* Hill. Ionia; Montcalm Co.; Ann Arbor, All. Cat. Swamps or dry soil. Common. Th.

*1945. **L. glaucescens** Ryd. Douglas' Honeysuckle. Keweenaw Co., O. A. Farwell; Bay Co., G. M. Bradford.

1946. **L. hirsuta** Eaton. Hairy Honeysuckle. Alma, C. A. Davis. Frequent northward. C. N. & U. P.

1947. **L. involucrata** (Richards.) Banks. Mainland and Isle Royale; Keweenaw Co., O. A. Farwell; Ann Arbor, C. A. Davis.

*1948. **L. Japonica** Thunb. Japanese Honeysuckle. Lansing; Ypsilanti, O. A. Farwell.

*1949. **L. oblongifolia** (Goldie) Hook. Swamp F. Howell Junction, C. F. Wheeler; Macomb Co.; Stanton; Edmore; Isabella Co., Roscommon; Alma. More frequent in N. and U. P. Rare in S. Th.

1950. **L. Sullivantii** A. Gray. Keweenaw Co., O. A. Farwell.

*1951. **L. Tatarica** L. Tartarian Honeysuckle. Escaped from cultivation, Lansing; Detroit; Port Huron; Ypsilanti, O. A. Farwell.

1952. **L. Xylosteum** L. Escaped from cultivation. Detroit. O. A. Farwell.

DIERVILLA Moench.

*1953. **D. Diervilla** (L.) MacM. Bush Honeysuckle. *D. trifida* Moench. Rocky woods and bluffs. Common. Th.

VALERIANACEÆ Batsch. Valerian Family.

VALERIANA L.

1954. V. edulis Nutt. Tobacco-root. Ann Arbor and Macomb Co. Rare. S. E.
*1955. V. uliginosa (T. & G.) Rydb. Swamp Valerian. *V. sylvatica* Beck, not Banks. Sphagnous swamps, local. Th.

VALERIANELLA Poll.

1956. V. chenopodifolia (Pursh) DC. Goose-foot Corn Salad. Flint; Ionia; Lyons. Not common. C. & S.
1957. V. radiata (L.) Dufr. Beaked Corn Salad. Mich. A. Gray; Macomb Co., Cooley.

DIPSACACEÆ Lindl. Teasel Family.

DIPSACUS L.

*1958. D. sylvestris Huds. Wild Teasel. Fields and roadsides. Gratiot Co.; Ann Arbor; Detroit; Flint; Alma; Addison. Infrequent. C. & S.

CUCURBITACEÆ B. Juss. Gourd Family.

MICRAMPELIS Raf. ECHINOCYSTIS T. & G.

1959. M. lobata (Michx.) Greene. Wild Balsam Apple. *Echinocystis lobata* T. & G. Common in low woods along streams; Alma; Ionia; South Haven; Macomb Co.; Ann Arbor; Manistee. F. P. Daniels; Bay Co., G. M. Bradford.

SICYOS L.

1960. S. angulatus L. One-seeded Star Cucumber. Ypsilanti, O. A. Farwell; Port Huron, C. K. Dodge; Alma, Ann Arbor, C. A. Davis; Algonac, W. S. Cooper.

CAMPANULACEÆ Juss. Bellflower Family.

CAMPANULA L.

*1961. C. Americana L. Tall Bellflower. Moist woodlands. Ionia Co.; Flint; Macomb Co.; Ann Arbor, Winch. Cat.; Alma, C. A. Davis. Infrequent. C. & S.
*1962. C. aparinoides Pursh. Marsh Bellflower. Wet grassy grounds. Common. Th.
1963. C. rapunculoides L. Creeping European Bellflower. Ann Arbor, A. J. Pieters; Ypsilanti, O. A. Farwell; Bay Co., G. M. Bradford.
*1964. C. rotundifolia L. Harebell. Sandy banks and lake shores. Common. Th.
1965. C. rotundifolia Langsdorfiana (A. DC.) Britton. *C. rotundifolia alpina* Tuckerman. Keweenaw Co., O. A. Farwell; shore of Black Lake, Cheboygan Co., B. & K.; Petoskey, C. F. Wheeler.
1966. C. rotundifolia velutina DC. Sand hills of Burt Lake, E. J. Hill.

SPECULARIA Heist.

*1967. S. perfoliata (L.) A. DC. Venus' Looking-glass. Gravelly fields. Clinton Co.; S. E., University Herb.; Niles, I. N. Mitchell; Detroit, A. B. Lyons; Ann Arbor. Scarce. C. & S.

LOBELIA L.

*1968. L. cardinalis L. Cardinal-flower. River banks. Flowers rarely rose-color or even white. Common. Th.
1969. L. Dortmanna L. Water Lobelia. Isle Royale, Dr. A. B. Lyons. U. P.
*1970. L. Kalmii L. Kalm's Lobelia. Wet banks and rocks along shores. Ionia Co.; Ann Arbor; Oakland Co.; Petoskey; to L. Superior. Frequent. Th.

*1971. L. inflata L. Indian Tobacco. Pastures. Montcalm Co.; Flint; Macomb Co.; Oakland Co.; Put-in-Bay. Scarce. Th.
*1972. L. spicata Lam. Pale Spiked Lobelia. Oak openings. Frequent. Th.
1973. L. spicata hirtella A. Gray. Keweenaw Co., Detroit, O. A. Farwell.
*1974. L. syphilitica L. Great Lobelia. Low grounds. Flowers vary to white. Common. L. P.

CICHORIACEÆ Reichenb. Chicory Family.

CICHORIUM L.

*1975. C. Intybus L. Chicory. Ionia Co.; Flint; Detroit; Keweenaw Co., O. A. Farwell; Alma; Ann Arbor. Frequent. Th.

LAPSANA L.

*1976. L. communis L. Nipplewort. Campus of the Agricultural College.

ADOPOGON Neck. Krigia Schreb.

1977. A. Carolinianum (Walt.) Britton. Carolina Dwarf Dandelion. *Krigia Virginica* Willd. Barrens N. part of Clare Co.; Walton; Elk Rapids; Bay City. Rare.
*1978. A. Virginicum (L.) Kuntze. *Krigia amplexicaulis* Nutt. Moist hillsides. Frequent. L. P.

LEONTODON L.

1979. L. autumnalis L. Fall Dandelion. Well established at Hubbardston, C. F. Wheeler; Alma, C. A. Davis.

PICRIS L.

1980. P. hieracioides L. Hawkweed Picris. Detroit, O. A. Farwell.

TRAGOPOGON L.

1981. T. porrifolius L. Oyster Plant. Escaped from cultivation. St. Clair Co.; Alma; Keweenaw Co., O. A. Farwell.
*1982. T. pratensis L. Goat's Beard. Spreading. Hubbardston, C. F. Wheeler; Kalamazoo, Tuthill; Keweenaw Co., Ypsilanti, O. A. Farwell.

TARAXACUM Haller.

1983. T. erythrospermum Andrz. Red-seeded Dandelion. Detroit, O. A. Farwell.
*1984. T. Taraxicum (L.) Karst. Dandelion. *T. officinale* Weber. Fields everywhere.

SONCHUS L.

*1985. S. arvensis L. Field Sow-Thistle. Grand Rapids, Coleman's Cat.; Detroit, O. A. Farwell; Tuscola Co., C. A. Davis; Bay Co., G. M. Bradford.
*1986. S. asper (L.) Hill. Spiney-leaved Sow-Thistle. Alma, C. A. Davis. Waste places. Frequent.
*1987. S. oleraceus L. Common Sow-Thistle. Waste places. Macomb Co.; Montcalm Co.; Alma, C. A. Davis; northward to L. Superior. Frequent.

LACTUCA L.

*1988. L. Canadensis L. Wild Lettuce. Rich soil. Frequent. Th.
*1989. L. Floridana (L.) Gaertn. Florida Lettuce. Wayne Co., O. A. Farwell; Agricultural College, W. J. B.
*1990. L. hirsuta Muhl. Hairy Wood-lettuce. Infrequent. Hubbardston; Macomb Co., Cooley; Alma, Chelsea, C. A. Davis.
1991. L. pulchella (Purhs.) DC. Large-flowered Blue lettuce. "Upper Michigan," Prof. T. C. Porter; Caribou I.; Lake Huron, Dr. Todd; Detroit, O. A. Farwell; Keweenaw Co., O. A. Farwell. N. & U. P.
1992. L. sagittifolia Ell. Arrow-leaved Lettuce. *L. integrifolia* Bigel. Petoskey, C. F. Wheeler; Belle Isle, O. A. Farwell.

*1994. **L. spicata** (Lam.) Hitchc. Tall Blue Lettuce. *L. leucophaea* A. Gray. Frequent. Th.

1995. **L. spicata integrifolia** (T. & G.) Britton. *L. leucophaea integrifolia* T. & G. Belle Isle, Detroit, C. F. Wheeler.

*1995a. **L. virosa** L. Prickly Lettuce. Usually given the name *L. Scariola* L., which has pinnatifid leaves. Common.

CREPIS L.

*1996. **C. tectorum** L. Narrow-leaved Hawksbeard. Introduced.

HIERACIUM L.

*1997. **H. Canadense** Michx. Canada Hawkweed. Woods. Frequent. Th.

*1998. **H. Gronovii** L. Hairy Hawkweed. Dry soil. Ionia Co.; Flint; Macomb Co.; S. W. Mich., Wright Cat.; Alma. Infrequent. C. & S.

1999. **H. longipilum** Torr. Long-bearded Hawkweed. Fields. Macomb Co.; Traverse City, S. W., Wright Cat.; Grand Rapids, Coleman; Algonac, W. S. Cooper; Tuscola Co., C. A. Davis. Scarce. L. P.

2000. **H. Marianum** Willd. Maryland Hawkweed. Shore of Grand Traverse Bay, C. F. Wheeler.

*2001. **H. paniculatum** L. Panicled Hawkweed. Macomb Co.; S. Mich., Wright Cat. Scarce. C. & S.

2002. **H. Pilosella** L. Mouse-ear Hawkweed. Introduced at Benzonia, G. A. Clark.

*2003. **H. scabrum** Michx. Rough Hawkweed. Woods; Alma. Common. Th.

*2004. **H. umbellatum** L. Narrow-leaved Hawkweed. Marquette, C. F. Wheeler.

*2005. **H. venosum** L. Rattlesnake-weed. Dry soil in pine woods, or on oak land. Abundant at Point aux Pins, at the entrance to Lake Superior, Macoun, Can. Cat.; Port Austin, Ann Arbor, C. A. Davis. Frequent.

NABALUS Cass. PRENANTHES Vaill.

*2006. **N. albus** (L.) Hook. Rattlesnake-root. *Prenanthes alba* L. Woods. Common. Th.

*2007. **N. altissimus** (L.) Hook. Tall White Lettuce. *Prenanthes altissima* L. Rich woods. Frequent. Th.

*2008. **N. racemosus** (Michx.) DC. Glaucous White-Lettuce. *Prenanthes racemosa* Michx. Lenawee Co., G. F. Comstock; Flint; Macomb Co.; shore of L. Mich., near Sitting Rabbit, Winch. Cat.; S. W., Wright Cat.; Cheboygan Co., Beardslee, Keweenaw Co., Farwell; Kawkawlin, Ann Arbor, Grass Lake, Bay Port, C. A. Davis. Rare. Th.

2009. **N. trifoliatus** Cass. Tall Rattlesnake-root. Washington, Dr. D. Cooley.

AMBROSIACEÆ Reichenb. Ragweed Family.

IVA L.

2010. **I. xanthiifolia** (Fresen.) Nutt. Marsh Elder. Highwater-shrub. Keweenaw Co., O. A. Farwell. The farthest station east known.

AMBROSIA L.

*2011. **A. artemisiaefolia** L. Roman Wormwood. Ragweed. Hog-weed. Bitterweed. Roadsides. Introduced from the west. Abundant. Th.

2012. **A. psilostachya** DC. Manistee, F. P. Daniels; shore of Lake Huron, C. K. Dodge; Keweenaw Co., O. A. Farwell.

*2013. **A. trifida** L. Great Ragweed. Common. Low grounds along Grand and Maple Rivers; northward to Keweenaw Co., O. A. Farwell.

2014. **A. trifida integrifolia** T. & G. Low land. Keweenaw Co., O. A. Farwell. Th.

XANTHIUM L.

*2015. **X. Canadense** Mill. Common in waste places and along river banks.

2015a. **X. commune** Britton. Britton and Brown's Flora.

2016. **X. echinatum** Murr. *X. Canadense echinatum* A. Gray. Shores of Great Lakes.

2017. **X. glabratum** (DC.) Britton. Broad Cocklebur. *X. strumarium* of authors, not of Linnaeus. Detroit, O. A. Farwell.

X. Pennsylvanicum Wallr. Britton and Brown's Flora.

2018. **X. spinosum** L. Spiny Clotbur. Detroit, O. A. Farwell.

COMPOSITÆ Adans. Thistle Family.

VERNONIA Schreb.

2019. **V. Drummondii** Shuttlw. Drummond's Iron-weed. *V. altissima grandiflora* A. Gray. Frequent in the Grand River Valley; Bay Co., G. M. Bradford.

*2020. **V. fasciculata** Michx. River banks; Ionia Co.; Macomb Co.; Detroit, O. A. Farwell; Monroe Co.; Ann Arbor; South Haven, L. H. Bailey. Frequent. C. & S.

2021. **V. glauca** (L.) Britton. Broad-leaved Iron-weed. Three Rivers, C. F. Wheeler; Detroit, O. A. Farwell.

2022. **V. interior** Small. Detroit, O. A. Farwell.

2023. **V. maxima** Small. Tall Iron-weed. *V. gigantea* (Walt.) Britton. Detroit, O. A. Farwell; S. W., H. S. Pepoon. Frequent eastward.

2024. **V. Noveboracensis** (L.) Willd. Manistee, F. P. Daniels.

EUPATORIUM L.

*2025. **E. ageratoides** L. f. White Snake-root. Woods. Frequent. Th.

2026. **E. coelestinum** L. Mist-flower. "Rich soil, Mich." A. Gray's Manual.

2027. **E. maculatum** L. Spotted Joe-Pye Weed. Keweenaw Co., Rochester, O. A. Farwell; near Algonac, C. K. Dodge.

*2028. **E. perfoliatum** L. Thoroughwort. Boneset. Low grounds. Common. Th.

*2029. **E. purpureum** L. Joe-Pye Weed. Keweenaw Co., Rochester, O. A. Farwell. Th.

*2030. **E. purpureum falcatum** (Michx.) Britton. Keweenaw Co., O. A. Farwell.

2031. **E. sessilifolium** L. Upland Boneset. Copses. Macomb Co.; S. Mich., Winch. Cat. S.

2032. **E. trifoliatum** L. Rochester, O. A. Farwell.

WILLUGBAEYA Neck. MIKANIA Willd.

2033. **W. scandens** (L.) Kuntze. Climbing Hemp-weed. *Mikania scandens* Willd. Banks of Muskegon River for a distance of eleven miles above Black Lake, C. D. McLouth.

KUHNIA L.

2034. **K. eupatorioides** L. Ionia Co.; S. Mich., Winch. Cat. Infrequent. C. & S.

LACINARIA Hill. LIATRIS Schreb.

2035. **L. cylindracea** (Michx.) Kuntze. Cylindric Blazing Star. *Liatris cylindracea* Michx. Sterile open places; Ionia Co.; Macomb Co.; Lenawee Co., G. F. Comstock; Tuscola Co.; Grand Rapids to Keweenaw Co., O. A. Farwell. Not common. Th.

*2036. **L. scariosa** (L.) Hill. Large Button Snake-root. *Liatris scariosa* Willd. Rarely the flowers vary to white. Dry soil. Ann Arbor; northward to Keweenaw Co., O. A. Farwell. Frequent.

2036a. **L. scariosa corymbulosa** Sheldon. Orion, O. A. Farwell.

2037. **L. scariosa squarrulosa** (Michx.) Small. Orion, O. A. Farwell.

*2038. **L. spicata** (L.) Kuntze. Dense Button-Snakeroot. *Liatris spicata* Willd. Low grounds. Ionia Co.; Macomb Co.; near Port Huron, C. K. Dodge; Bay Co., G. M. Bradford; Kalamazoo, Tuthill. Infrequent.

GRINDELIA Willd.

2039. **G. squarrosa** (Pursh.) Dunal. Broad-leaved Gum-plant. Escanaba, R. E. Merrell; near Lapeer, Mrs. M. Owen; Marquette, O. A. Farwell. Occasionally introduced in grass seeds from the west.

SOLIDAGO L.

2040. **S. alpestris** Wald. & Kit. Alpine Golden-rod. *S. Virgaurea alpina* Bigel. Gray's Manual, 6th edition. U. P.

*2041. **S. bicolor** L. White Golden-rod. Rochester, W. A. Brotherton; Lansing, W. J. B.; Detroit, O. A. Farwell.

*2042. **S. caesia** L. Blue-stemmed Golden-rod. Rich woods. Frequent. L. P.

*2043. **S. caesia axillaris** (Pursh.) A. Gray. Frequent near Lansing. L. P.

*2044. **S. Canadensis** L. Canada Golden-rod. Fields. Our most variable and common golden-rod. Th.

*2045. **S. Canadensis procera** (Ait.) T. & G. Common.

2046. **S. Canadensis scabriuscula** T. C. Porter. Keweenaw Co., Detroit, O. A. Farwell.

2047. **S. erecta** Pursh. Slender Golden-rod. *S. speciosa angustata* T. & G. Indian River, Cheboygan Co., C. F. Wheeler.

*2048. **S. flexicaulis** L. Zig-Zag Golden-rod. *S. latifolia* L. Moist woods. Frequent. Th.

*2049. **S. hispida** Muhl. Hairy Golden-rod. *S. bicolor concolor* Torr & Gray. Dry places. Ionia Co.; Flint; Macomb Co.; Alma, Ann Arbor, C. A. Davis; and northward.

2050. **S. Houghtonii** Torr. & Gray. Houghton's Golden-rod. "N. shore of Lake Michigan," Gray's Man.; Drummond's Is., Wineh. Cat.

*2051. **S. juncea** Ait. Early Golden-rod. Meadows and fields, variable. Frequent. Th.

2052. **S. juncea scabrella** (T. & G.) A. Gray. Orion, Detroit, O. A. Farwell.

2053. **S. macrophylla** Pursh. Large-leaved Golden-rod. "Shore of Lake Superior and northward," A. Gray's Manual, 6th edition. U. P.

2054. **S. neglecta** Torr. & Gray. Swamp Golden-rod. Swamps. Ionia Co., Orion, O. A. Farwell, and northward. Infrequent.

*2055. **S. nemoralis** Ait. Gray Golden-rod. Dry sandy soil. Common. Th.

2056. **S. Ohioensis** Riddell. Ohio Golden-rod. Moist meadows. Ionia Co.; Flint; Bay Co., G. M. Bradford; Macomb Co. to Grand Detour below Sugar Island, Prof. T. C. Porter. Infrequent.

*2057. **S. patula** Muhl. Rough-leaved Golden-rod. Borders of swamps. Common. C. & S.

2058. **S. Purshii** T. C. Porter. River bank Golden-rod. *S. humilis* Pursh. Frequent at Petoskey; Cheboygan Co., Beardslee; Keweenaw Co., O. A. Farwell.

*2059. **S. rigida** L. Stiff Golden-rod. Dry, sandy ground. Ann Anbor; Ionia Co.; Flint; Manistee, F. P. Daniels, and northward. Infrequent.

*2060. **S. Riddellii** Frank. Riddell's Golden-rod. Swamps, Ionia Co.; Macomb Co.; Detroit, O. A. Farwell; Ann Arbor, and southward. Rare.

*2061. **S. rugosa** Mill. Wrinkle-leaved Golden-rod. Borders of fields, northward to Thunder Bay, Macoun. Common. Th.

*2062. **S. serotina** Ait. Late Golden-rod. Shady places. Frequent. Th.

2063. **S. serotina gigantea** (Ait.) A. Gray. Borders of woods. Frequent. Th.

*2064. **S. speciosa** Nutt. Showy Golden-rod. Margin of woods on light soil. Ionia Co.; Flint; Macomb Co.; Ann Arbor; and northward to Keweenaw Co., O. A. Farwell. Infrequent.

*2065. **S. uliginosa** Nutt. Bog Golden-rod. Swamps. Ann Arbor, Tuscola Co., Alpena Co., C. A. Davis. Infrequent. Th.

*2066. **S. ulmifolia** Muhl. Elm-leaved Golden-rod. Borders of woods. Ionia Co.; Flint; Alma; S. W., Winch. Cat. Infrequent. L. P.

2067. **S. Virgaurea Gillmani** (A. Gray) T. C. Porter. *S. humilis Gillmani* A. Gray. Shores of Lake Mich., from New Buffalo to Mackinaw City, C. F. Wheeler.

EUTHAMIA Nutt.

2068. **E. Caroliniana** (L.) Greene. Slender Fragrant Golden-rod. *Solidago tenuifolia* Pursh. Grand Rapids, Miss E. J. Cole.

*2069. **E. graminifolia** (L.) Nutt. Bushy Golden-rod. *Solidago lanceolata* L. Moist soil. Alma, Ann Arbor, C. A. Davis. Common. Th.

ASTER L.

2069a. **A. amethystinus** Nutt. Detroit, O. A. Farwell.

*2070. **A. azureus** Lindl. Sky-blue Aster. Sterile soil. Flint; Ann Arbor; Ionia Co.; Bay Co., G. M. Bradford; Macomb Co. Infrequent. C. & S.

*2071. **A. cordifolius** L. Blue Wood Aster. *A. cordifolius polycephalus* T. C. Porter. Lansing, C. F. Wheeler; Bay Co., G. M. Bradford. Woods. Common. Th.

2072. **A. divaricatus** L. White Wood Aster. *A. corymbosus* Ait. Woods. Bay Co., G. M. Bradford. Infrequent. Th.

2073. **A. dumosus** L. Bushy Aster. Thickets. Macomb Co.; Petoskey, Dr. D. Clark; Hubbardston, not common, C. F. Wheeler; Cheboygan Co., Beardslee; Orion. O. A. Farwell; Alma, C. A. Davis. L. P.

2074. **A. ericoides** L. White Heath Aster. Petoskey, C. F. Wheeler; Bay Co., G. M. Bradford; shores of the Great Lakes.

2075. **A. ericoides pilosus** (Willd.) T. C. Porter. *A. ericoides villosus* T. & G. Marine City, C. K. Dodge.

2075a. **A. ericoides platyphyllus** T. & G. Detroit, O. A. Farwell.

2076. **A. exiguus** (Fernald) Rydb. Detroit, O. A. Farwell.

2078. **A. Faxoni** Porter. Faxon's Aster. *A. polyphyllus* Willd. Shores of the Great Lakes.

2079. **A. hirsuticaulis** Lindl. Hairy-stemmed Aster. *A. lateriflorus hirsutiusculis* T. C. Porter. Belle Isle, O. A. Farwell.

*2080. **A. junceus** Ait. Rush Aster. Tamarack swamps. Ionia Co.; Flint; Macomb Co.; Alma, Ann Arbor; northward. Frequent. Th.

*2081. **A. laevis** L. Smooth Aster. Border of oak woods. Cheboygan Co., B. & K.; Alma; Ann Arbor. Common southward. L. P.

2082. **A. laevis amplifolius** Porter. Detroit, Birmingham, O. A. Farwell.

2083. **A. lateriflorus** (L.) Britton. Starved Aster. *A. diffusus* Ait. Fields. Exceedingly variable. Common. Th.

2084. **A. lateriflorus glomerellus** (T. & G.) Burgess. Detroit, O. A. Farwell.

2085. **A. lateriflorus horizontalis** (Desf.) Burgess. Belle Isle, O. A. Farwell.

2085a. **A. lateriflorus pendulus** (Ait.) Burgess. Belle Isle, O. A. Farwell.

2086. **A. lateriflorus thyrsoideus** (A. Gray) Sheldon. *A. diffusus thyrsoides* A. Gray. Washington, Macomb Co., Dr. D. Cooley; Belle Isle, O. A. Farwell; and northward.

2087. **A. Lindleyanus** Torr. & Gray. Lindley's Aster. "Labrador to Lake Superior." A. Gray's Manual; Mackinaw City, C. F. Wheeler; Keweenaw Co., O. A. Farwell. Not common. N. & U. P.

2088. **A. longifolius** Lam. Long-leaved Aster. Escanaba, C. F. Wheeler.

2088a. **A. Lowrieanus** Porter. Lowrie's Aster. Lakeville. Brotherton and Farwell.

*2089. **A. macrophyllus** L. Large-leaved Aster. Woods. Common. Th.

*2090. **A. macrophyllus excelsior** Burgess. Keweenaw Co., O. A. Farwell.

2091. **A. multiflorus** Ait. Dense-flowered Aster. Sandy soil. Frequent. C. & S.

2092. **A. nemoralis** Ait. Common. Th.

*2093. **A. Novae-Angliae** L. New England Aster. Moist grounds. Frequent. Th.

2094. **A. Novi-Belgii** L. New York Aster. Detroit, O. A. Farwell.

2095. **A. oblongifolius** Nutt. Detroit, O. A. Farwell.

*2096. **A. paniculatus** Lam. Tall White Aster. Shady banks. Frequent. Th.

2098. **A. paniculatus bellidiflorus** (Willd.) Burgess. Belle Isle, C. F. Wheeler; Lapeer, Mrs. M. Owen.

2099. **A. paniculatus simplex** (Willd.) Burgess. Detroit, O. A. Farwell.

2100. **A. patens** Ait. Late Purple Aster. Dry grounds. Ann Arbor; Macomb Co. S. E.

2101. **A. prenanthoides** Muhl. Keweenaw Co., O. A. Farwell.

*2102. **A. ptarmicoides** (Nees.) Torr. and Gray. Macomb Co.; Clarkston, G. H. Hicks; Keweenaw Co., O. A. Farwell. Infrequent. Th.

*2103. **A. puniceus** L. Purple-stem Aster. Low grounds. Alma, Ann Arbor, C. A. Davis. Common. Th.

2103a. **A. puniceus firmus** (Nees) T. & G. Detroit, O. A. Farwell.

*2104. **A. puniceus lucidulus** Gray. Macomb Co. westward. Abundant.

*2105. **A. sagittifolius** Willd. Arrow-leaved Aster. Dry grounds. Frequent. Th.

2106. **A. sagittifolius urophyllus** (Lindl.) Burgess; Detroit, O. A. Farwell.

2107. **A. salicifolius** Lam. Willow Aster. Moist soil. Flint; Macomb Co., northward. Frequent.

2108. **A. sericeus** Vent. Silky Aster. S. Mich., Winch. Cat., Dr. D. Houghton; north to Keweenaw Co., O. A. Farwell. Rare.

2109. **A. Shortii** Hook. Short's Aster. Pewamo, C. F. Wheeler; Rochester, W. A. Brotherton. Rare.

*2110. **A. Tradescanti** L. Tradescant's Aster. Low grounds. Flint; Macomb Co. Frequent. L. P.

*2111. **A. undulatus** L. Wavy-leaf Aster. Dry copses. Flint; S. Mich.; Cheboygan Co., B. & K.; Ionia Co. Common. L. P.

*2112. **A. vimineus** Lam. Small White Aster. Low grounds. Cheboygan Co., Beardslee; Alma. Frequent southward. L. P.

2112a. **A. vimineus foliolosus** Ait. A. Gray. Detroit, O. A. Farwell.

BRACHYACTIS Ledeb.

2113. **B. angustus** (Lindl.) Britton. Rayless Aster. Port Huron, C. K. Dodge.

ERIGERON L.

2114. **E. acris** L. Blue Fleabane. Keweenaw Co., O. A. Farwell.

2115. **E. acris Droebachianus** (Retz) Willd. "Shores of Lake Superior," A. Gray; Dr. A. B. Lyons; Keweenaw Co., O. A. Farwell. U. P.

*2116. **E. annuus** (L.) Pers. Daisy Fleabane. Sweet Scabious. Fields. Common. Th.

2117. **E. asper** Nutt. Rough Erigeron. *E. glabellus* Nutt. Plains. Dr. A. B. Lyons. U. P.

2118. **E. hyssopifolius** Michx. Hyssop-leaved Erigeron. "Lake Superior, and northward." A. Gray; Dr. Lyons; Keweenaw Co., O. A. Farwell.

*2119. **E. Philadelphicus** L. Common Philadelphia Fleabane. Common. Th.

*2120. **E. pulchellus** Michx. Robin's Plantain. *E. bellidifolius* Muhl. Moist banks. Frequent. C. & S.

*2121. **E. ramosus** (Walt.) B. S. P. Daisy Fleabane. *E. strigosus* Muhl. Fields. Common. Th.

LEPTILON Raf. ERIGERON L., in part.

2122. **L. Canadense** (L.) Britton. Horse-weed. *Erigeron Canadensis* L. Waste grounds. Common. Th.

2122a. **L. divaricatum** (Michx.) Raf. Near Detroit, O. A. Farwell.

DOELLINGERIA Nees.

*2123. **D. umbellata** (Mill.) Nees. Tall Flat-top White Aster. *Aster umbellatus* Mill. Moist places. Th.

2124. **D. umbellata pubens** (A. Gray) Britton. *Aster umbellatus pubens* A. Gray. Upper Mich., A. Gray's Manual; Cheboygan Co., Beardslee; Keweenaw Co., O. A. Farwell.

ANTENNARIA Gaertn.

2125. **A. ambigens** (Greene) Fernald. Bay Co., G. M. Bradford, Detroit, O. A. Farwell.

*2127. **A. campestris** Rydberg. Prairie Cat's-foot. Grayling, C. F. Wheeler; Manistee, F. P. Daniels.

2128. **A. Canadensis** Greene. Shores of Grand Traverse Bay under pines, C. F. Wheeler; Mackinac Island, O. A. Farwell.

2129. **A. fallax** Greene. Detroit, O. A. Farwell.

*2130. **A. Farwellii** Greene. Lansing, C. F. Wheeler; Keweenaw Co., O. A. Farwell; Manistee, F. P. Daniels.

*2131. **A. neglecta** Greene. Field Cat's-foot. Lansing, Brighton, Stockbridge, Wheeler & Longyear; Detroit, Ypsilanti, O. A. Farwell; Manistee, F. P. Daniels.

2131a. **A. neodioica** Greene. Keweenaw Co., O. A. Farwell.

*2132. **A. neodioica attenuata** Fernald. Agricultural College, Brighton, Vestaburg, C. F. Wheeler; Detroit, Mackinac Island, O. A. Farwell.

2133. **A. occidentalis** Greene. Shores of Grand Traverse Bay, C. F. Wheeler.

*2134. **A. Parlinii ambigens** Fernald. Banks of Cedar River at Agricultural College, C. F. Wheeler; Manistee, F. P. Daniels; Port Huron, C. K. Dodge.

*2135. **A. plantaginifolia** (L.) Richards. Plantain-leaved Everlasting. Dry fields. Common. Th.

ANAPHALIS DC.

2136. **A. margaritacea** (L.) Benth. & Hook. Pearly Everlasting. Montcalm Co.; Grayling, G. H. Hicks; Petoskey, Mackinac, C. F. Wheeler; Bay Co., G. M. Bradford.

GNAPHALIUM L.

*2137. G. decurrens Ives. Everlasting. Winged Cudweed. Fields. Alma, Ann Arbor, C. A. Davis. Abundant in the pine region, and northward.
*2138. G. obtusifolium L. Sweet Balsam. *G. polycephalum* Michx. Common Everlasting. Fields. Common. Th.
2139. G. purpureum L. Purplish Cudweed. Macomb and St. Clair Counties, A. F. Foerste; Detroit, O. A. Farwell.
*2140. G. uliginosum L. Low Cudweed. Roadsides in clay soil, abundant. Th.

ADENOCAULON Hook.

2141. A. bicolor Hook. Moist ground. Ontonagon River. U. P.

INULA L.

*2142. I. Helenium L. Elecampane. Roadsides, escaped from gardens. Infrequent.

POLYMNIA L.

*2143. P. Canadensis L. Small-flowered Leaf-cup. Shaded river banks. Ionia Co.; Macomb Co.; Flint; S. Michigan. Infrequent. C. & S.
2144. P. Canadensis radiata A. Gray. Rochester, O. A. Farwell.
2145. P. Uvedalia L. Large-flowered Leaf-cup. S. Michigan, Wright's Cat. S.

SILPHIUM L.

2146. S. integrifolium Michx. Entire-leaved Rosin-weed. S. W., University Herb.; Kalamazoo, Tuthill.
2147. S. laciniatum L. Rosin-weed. Compass-plant. S. Mich., Wright's Cat.; near Capac, J. W. Stacey. S.
2148. S. perfoliatum L. Cup-Plant. S. Mich., Wright's Cat.
2149. S. terebinthinaceum Jacq. Prairie Dock. Oak openings. Ionia; Macomb Co.; Ann Arbor; Sturgis, F. P. Daniels; S. W., H. S. Pepoon; Bay Co., G. M. Bradford. Infrequent. C. & S.
2150. S. trifoliatum L. Avon, W. A. Brotherton. Rare.
2150a. H. helianthoides (L.) B. S. P. Rochester, O. A. Farwell.

HELIOPSIS Pers.

2151. H. scabra Dunl. Rough Ox-Eye. Detroit, O. A. Farwell.

RUDBECKIA L.

*2152. R. hirta L. Black-eyed Susan. Meadows and low places, apparently introduced. Common. Th.
*2153. R. laciniata L. Tall Cone-flower. Low grounds. Frequent. Th.
*2154. R. speciosa Wenderoth. Flat-headed Cone-flower. Wet soil. Ionia Co.; Flint; Macomb Co.; Alma; Ann Arbor. Infrequent. C. & S.
2155. R. triloba L. Thin-leaved Cone-flower. Washington, Macomb Co., Cooley. Rare.

RATIBIDA Raf. LEPACHYS Raf.

*2156. R. pinnata (Vent.) Barnhart. Gray-headed Cone-flower. *Lepachis pinnata* Torr. & Gray. Dry ground. Ionia Co.; Grand Rapids; S. W., H. S. Pepoon. S. Mich. Infrequent. C. & S.

BRAUNERIA Neck. ECHINACEA Moench.

2157. B. pallida (Nutt.) Britton. Pale Purple Cone-flower. *Echinacea angustifolia* DC. Keweenaw Co., O. A. Farwell.
2158. B. purpurea (L.) Britton. Purple Cone-flower. *Echinacea purpurea* Moench. Univ. Herb. Harrington; Grand Rapids, Delia Bailey; St. Joseph, Dr. Houghton, 1838. Rare. S. W.

HELIANTHUS L.

*2159. **H. decapetalus** L. Thin-leaved Wild Sunflower. Low grounds. Frequent. L. P.

*2160. **H. divaricatus** L. Rough Sunflower. Dry woods. Common. Th.

*2161. **H. giganteus** L. Tall Sunflower. Low grounds; variable. Ionia Co.; Flint; Ann Arbor; Alma; Macomb Co. and northward. Common. Th.

2161a. **H. giganteus subtuberosus** (Bourg.) Britton. Rochester, Birmingham, O. A. Farwell.

2162. **H. grosseserratus** Martens. Saw-toothed Sunflower. Port Huron, C. K. Dodge; S. W., H. S. Pepoon.

2163. **H. hirsutus** Raf. Stiff-haired Sunflower. Dry soil. Ann Arbor, and S. W.

2164. **H. Maximiliani** Schrad. Adventive from the west. Bay Co., G. M. Bradford; Houghton, Detroit, O. A. Farwell.

2165. **H. microcephalus** T. & G. S. W., H. S. Pepoon.

2166. **H. mollis** Lam. Hairy Sunflower. Manistee, F. P. Daniels.

2167. **H. occidentalis** Riddell. Few-leaved Sunflower. Sterile soil. Ionia Co.; Flint; Grand Rapids; Macomb Co. Infrequent. C. & S.

2168. **H. petiolaris** Nutt. Prairie Sunflower. Introduced from the west to Hubbardston, C. F. Wheeler; Port Huron, C. K. Dodge.

2169. **H. scaberrimus** Ell. Stiff Sunflower. *H. rigidus* Desf. Dry soil. Ann Arbor, Winch. Cat. S.

*2170. **H. strumosus** L. Pale-leaved Wood Sunflower. Dry soil. Frequent. C. & S.

2171. **H. strumosus macrophyllus** (Willd.) Britton. *H. strumosus* var. *mollis* T. & G. Sturgis, F. P. Daniels.

2172. **H. tracheliifolius** Mill. Throatwort Sunflower. Copses. S. Mich., Wright's Cat.; Macomb Co., Dr. D. Cooley. C. & S.

*2173. **H. tuberosus** L. Jerusalem Artichoke. Sparingly escaped from gardens.

VERBESINA L. ACTINOMERIS Nutt.

2174. **V. alternifolia** (L.) Britton. *Actinomeris squarrosa* Nutt. Rich soil. S. Mich., Wright's Cat.; Dundee, C. F. Wheeler; Hudson, W. J. B.; islands in the Detroit River. Maclagan. Can Cat. S.

COREOPSIS L.

2175. **C. lanceolata** L. Lance-leaved Tickseed. *C. lanceolata angustifolia* T. & G. Sandy shores of Lake Huron; sand hills, Cheboygan Co., B. & K.; sandy plains near Baldwin, W. J. B.; south to Macomb Co., Cooley; Elk Rapids, W. S. Cooper. Th.

2176. **C. palmata** Nutt. Stiff Tickseed. S. Mich., Wright's Cat.; shore of Barron Lake, C. F. Wheeler, 1890; Gull Prairie, Dr. Houghton, 1838.

2177. **C. tinctoria** Nutt. Garden Tickseed. Bay City, G. M. Bradford.

2178. **C. tripteris** L. Tall Coreopsis. Tall Tickseed. Detroit; Macomb Co.; Oakland Co.; S. Mich., Wright's Cat.; Ionia; Grand Rapids; Ann Arbor. S.

2179. **C. verticillata** L. Whorled Tickseed. Samaria, Macomb Co., Grand Rapids, C. F. Wheeler.

BIDENS L.

2180. **B. aristosa** (Michx.) Britton. Belle Isle, O. A. Farwell.

*2180. **B. Beckii** Torr. Water Marigold. S. Mich., Wright's Cat.; Ann Arbor; Wexford Co., Cooley; Manistee, E. J. Hill; Indian River, C. F. Wheeler; Orion, O. A. Farwell; St. Clair Lake and River, C. K. Dodge. Rare.

*2182. **B. cernua** L. Smaller Bur-Marigold. Wet places. Cheboygan Co., Kofoid; Orion, Detroit, O. A. Farwell; Algonac, W. S. Cooper. Southward. Frequent. Th.

2182a. **B. cernua elliptica** Weigand, in part. Belle Isle, O. A. Farwell.

*2183. **B. laevis** (L.) B. S. P. Large Bur-Marigold. *B. chrysanthemoides* Michx. Swamps. Common. Th.

*2184. **B. comosa** (A. Gray) Wiegand. Leafy-bracted Tickseed. *B. connata comosa* A. Gray. Detroit, O. A. Farwell; Alma; Ann Arbor. Infrequent.

*2185. **B. connata** Muhl. Swamp Beggar-ticks. Low grounds. Common. Th.

2185a. **B. connata anomala** O. A. F. Awns upwardly barbed, O. A. F. Detroit, O. A. Farwell.

2185b. **B. connata petiolata** (Nutt.) O. A. F. Detroit, O. A. Farwell.

2186. **B. discoidea** (T. & G.) Britton. Small Beggar-ticks. *Coreopsis discoidea* Torr. & Gray. Wet ground. Ionia Co.; Manistee, F. P. Daniels. Scarce.

*2187. **B. frondosa** L. Common Beggar-ticks. Stick-tight. Low grounds. A troublesome weed. Common. Th.

2187a. **B. trichosperma** (Michx.) Britton. Orion, O. A. Farwell.

2188. **B. trichosperma tenuiloba** (A. Gray) Britton. *Coreopsis trichosperma tenuiloba* A. Gray. Swamps. Flint; Montcalm Co.; Ionia Co.; S. Mich., Wright's Cat.; Orion. O. A. Farwell. Common in pine country. Infrequent elsewhere.

2188a. **B. vulgaris** Greene. Detroit, O. A. Farwell.

2188b. **B. vulgaris puberula** (Wieg.) Greene. Detroit, O. A. Farwell.

GALINSOGA R. & P.

2189. **G. parviflora** Cav. Detroit. W. S. Cooper. Introduced.

HELENIUM L.

*2190. **H. autumnale** L. Sneeze-weed. River banks. Common. C. & S.

2191. **H. tenuifolium** Nutt. Fine-leaved Sneeze-weed. Port Huron, C. K. Dodge.

ACHILLEA L.

2192 **A. lanulosa** Nutt. Western Yarrow. Rochester, W. S. Cooper; Frequent in U. P., O. A. Farwell.

*2193. **A. Millefolium** L. Common Yarrow or Milfoil. Fields. Common.

2193a. **A. Ptarmica** L. Sneezewort. Mich., Gray's Manual. Rare. Th.

ANTHEMIS L.

2194. **A. arvensis** L. Corn Chamomile. Introduced. Three Rivers, C. F. Wheeler; Keweenaw Co., near Detroit, O. A. Farwell; St. Clair Co., C. K. Dodge.

*2195. **A. Cotula** DC. May-weed. Dog-Fennel. Roadsides. Common. Th.

CHRYSANTHEMUM L.

2196. **C. Balsamita tanacetoides** Boiss. Mint-Geranium. Escaped from gardens.

*2197. **C. Leucanthemum** L. Ox-eye or White Daisy. Meadows and pastures. Th.

2197a. **C. Parthenium** (L.) Pers. Keweenaw Co., O. A. Farwell.

MATRICARIA L.

2198. **M. inodora** L. Scentless Camomile. Flint, Dr. D. Clark.

TANACETUM L.

2199. **T. Huronense** Nutt. Lake Huron Tansy. Sand dunes at the head of Little Traverse Bay, and northward. Frequent; Elk Rapids, W. S. Cooper.

*2200. **T. vulgare** L. Common Tansy. Escaped from gardens. Frequent.

*2201. **T. vulgare crispum** DC. More common than the species.

ARTEMISIA L.

2202. **A. Abrotanum** L. Southernwood. Escaped in Keweenaw Co., O. A. Farwell.

2203. **A. Absinthium** L. Common Wormwood. Ionia Co.; Flint; Gratiot Co.; Keweenaw Co., O. A. Farwell. Sparingly escaped from gardens.

2104. **A. annua** L. Annual Wormwood. Detroit, O. A. Farwell; New Baltimore, J. W. Stacey.

*2205. **A. biennis** Willd. Biennial Wormwood. A roadside weed, lately introduced from the west and extending throughout the State.

2206. **A. Canadensis** Michx. Canada Wormwood. Sand dunes. Barron Lake; New Buffalo, C. F. Wheeler; Ottawa Co.; Emmet Co.; to Lake Superior. Th.

*2207. **A. caudata** Michx. Tall Wormwood. Bay Co., G. M. Bradford. Sandy fields. Ionia Co.; Montcalm Co.; S. Haven, L. H. Bailey. Infrequent. C. & S.

2208. **A. gnaphaloides** Nutt. Keweenaw Co., O. A. Farwell.

2209. **A. Ludoviciana** Nutt. Western Mugwort. Dry banks. Niles, J. T. Scoville. Univ. Herb.; Keweenaw Co., O. A. Farwell. Rare.

2210. **A. Stellariana** Bess. Port Austin. C. A. Davis; Keweenaw Co., O. A. Farwell.

2211. **A. vulgaris** L. Common Mugwort. Waste places. Infrequent.

TUSSILAGO L.

2212. **T. Farfara** L. Sault de Ste. Marie, Whitney's Cat.; Washington, Macomb Co., W. A. Brotherton.

PETASITES Gaertn.

2213. **P. palmata** (Ait.) A. Gray. Harrisville, Oscoda, Alger, and westward; Keweenaw Co., O. A. Farwell; St. Clair Co., C. K. Dodge.

ARNICA L.

2214. **A. lanceolata** Nutt. Northern Arnica. Shores of Lake Superior, Gray's Manual; Copper Harbor, Whitney's Catalogue. "It has been confused with *A. Chamissonis* of the west." Britton's Manual.

ERECHTITES Raf.

*2215. **E. hieracifolia** (L.) Raf. Fireweed. New clearings. Common northward. Th.

MESADENIA Raf. CACALIA L., in part.

2216. **M. atriplicifolia** (L.) Raf. Pale Indian Plantain. *Cacalia atriplicifolia* L. Woods. Ionia Co.; Alma; Ann Arbor; Manistee and Sturgis, F. P. Daniels; Battle Creek, W. S. Cooper; Berrien Co., H. S. Pepoon. Frequent.

2217. **M. tuberosa** (Nutt.) Britton. Tuberous Indian Plantain. *Cacalia tuberosa* Nutt. S. Mich., Wright's Cat.; three miles east of Kalamazoo, 1838, Dr. D. Houghton; Huron and Tuscola counties; Mottville, J. N. Mitchell; Bay Co., G. M. Bradford.

SYNOSMA Raf. CACALIA L., in part.

2218. **S. suaveolens** (L.) Raf. Sweet-scented Indian Plantain. *Cacalia suaveolens* L. Lodi, Miss Clark, in Winch. Cat.; Gray's Manual. Rare.

SENECIO L.

*2219. **S. aureus** L. Golden Ragwort. Squaw-weed. Very variable. Common. Th.

2220. **S. aureus gracilis** (Pursh.) Britt. A slender form of the Life-root, is frequent at Linden Park, Detroit, O. A. Farwell.

2221. **S. aureus lancelatus** Oakes. Muskegon Co., C. D. McLouth.

*2222. **S. Balsamitae** Muhl. Balsam Groundsel. • *S. aureus Balsamitae* T. & G. Berrien Co., H. S. Pepoon. Northward to Keweenaw Co.

*2223. **S. discoideus** (Hook.) Britton. North of Chandler's marsh near Lansing, W. J. B.; Keweenaw Co., O. A. Farwell.

*2224. **S. obovatus** Muhl. Round-leaf Squaw-weed. *S. aureus obovatus* T. & G. More common southward.

*2225. **S. vulgaris** L. Common Groundsel., Flint; Macomb Co.; S. W. Mich. Wright's Cat.; Keweenaw Co., O. A. Farwell.

ARCTIUM L.

*2226. **A. Lappa** L. Great Burdock. Waste places. Common. Th.

2227. **A. minus** Schk. Common Burdock. *A. Lappa minus* A. Gray. Keweenaw Co., O. A. Farwell; Bay Co., G. M. Bradford.

CARDUUS L. CNICUS L. in part.

*2228. **C. altissimus** L. Tall Thistle. *Cnicus altissimus* Willd. Ionia Co.; Ann Arbor; Flint; Macomb Co.; Bay Co., G. M. Bradford. Infrequent. C. & S.

*2229. **C. arvensis** (L.) Robs. Canada Thistle. *Cnicus arvensis* Hoffm. Fields. A vile pest, introduced from Europe. Th.

2230. **C. crispus** L. Port Huron, C. K. Dodge. Introduced from Europe.

*2231. **C. discolor** (Muhl.) Nutt. Field Thistle. *Cnicus altissimus discolor* A. Gray. Meadows. Montcalm Co.; Tuscola Co.; Ann Arbor; Ionia Co.; Flint; and southward. Flowers sometimes white. Infrequent. C. & S.

2232. **C. Hillii** (Canby.) Porter. Hill's Thistle. *Cnicus Hillii* Canby. Muskegon, C. F. Wheeler; Rochester, O. A. Farwell.

*2233. **C. lanceolatus** L. Common or Bull Thistle. Roadsides and fields. Common. Th.

*2234. **C. muticus** (Mich.) Pers. Swamp Thistle. *Cnicus muticus* Pursh. Swamps, low land. Frequent. Th.

2235. **C. odoratus** (Muhl.) Porter. *C. pumilus* Nutt. S. W. Mich., Wright's Cat.; Macomb Co., Dr. Cooley; Baldwin, W. J. B.; Cheboygan Co., B. & K.

2236. **C. Pitcheri** (Torr.) Porter. Pitcher's Thistle. *Cnicus Pitcheri* Torr. Shores of the Great Lakes; sand dunes.

2237. **C. spinosissimus** Walt. Yellow Thistle. *Cnicus horridus* Pursh. N. shore Lake Superior, Agassiz; Grand Detour, T. C. Porter.

2238. **C. undulatus** Nutt. Wavy-leaved Thistle. *Cnicus undulatus* A. Gray. Islands of Lakes Huron and Michigan, A. Gray; Drummond's I., Winch. Cat. N. & U. P.

MARIANA Hill. Silybum Gaertn.

*2239. **M. Mariana** (L.) Hill. Milk Thistle. *Silybum Marianum* Gaertn. Occasional.

ONOPORDON L.

2240. **O. Acanthium** L. Cotton or Scotch Thistle. Grand Rapids; Detroit, O. A. Farwell. Rare.

CENTAUREA L.

2241. **C. Cyanus** L. Blue-bottle. Escaped from gardens.

2242. **C. nigra** L. Black Knapweed. Centaury. Bay City, G. M. Bradford.

ECHINOPSIS.

2243. **E. sphaerocephalus** L. Well established at Three Rivers, C. F. Wheeler. Grand Rapids, H. C. Skeels. Introduced from Europe as a plant for bees.

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